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THE OPERATOR.

The Telegraph Operators' Journal.

VOL. IV.

NEW YORK, SEPTEMBER 1, 1875.

No. 1.

THE OPERATOR.

PUBLISHED ON THE 1ST AND 15TH OF EACH MONTH,
AT 66 CORTLANDT STREET.
THIRD VOLUME.

TERMS:

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" Six Months.....70
" Three Months.....35

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AGENTS.

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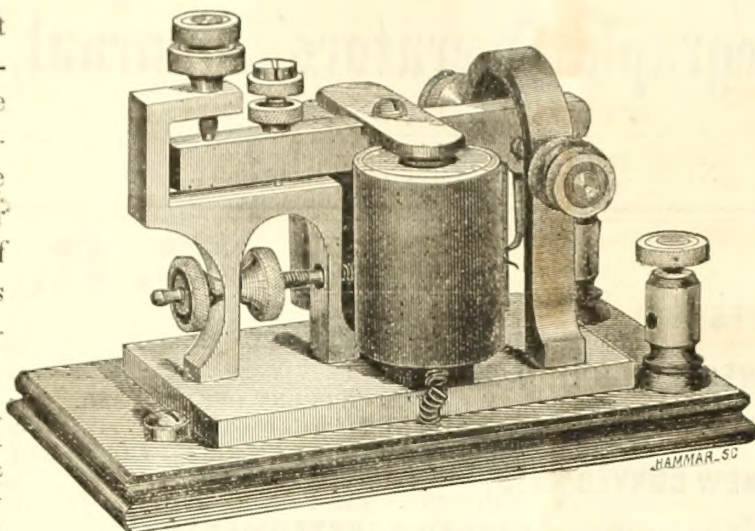
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To the Public.

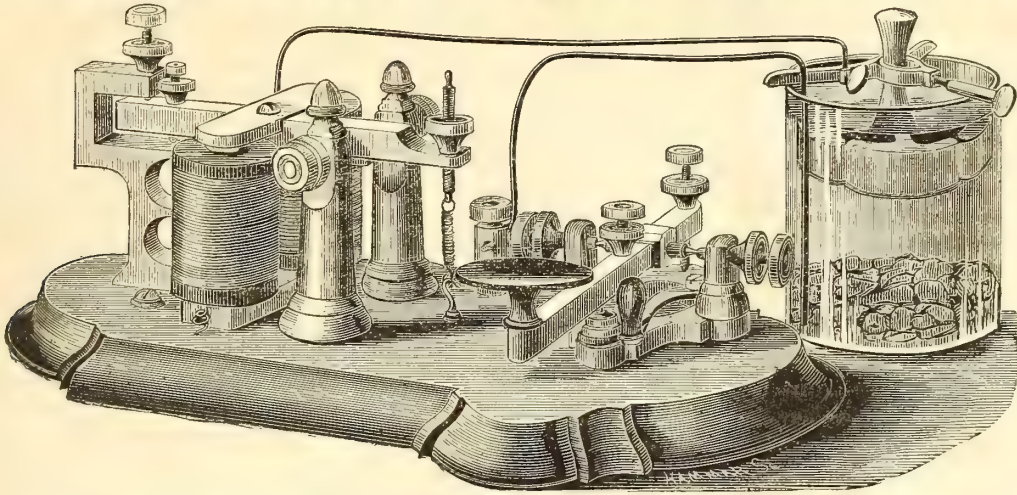
The undersigned, formerly manager of the New York house of Patrick & Carter, begs to inform the telegraphic public that, on the first of July, he will open, at No. 6 Barclay Street, with a full assortment of telegraphic apparatus, such as Burglar Alarms, Annunciators, Induction Coils, Keys, Relays, Sounders, No. 1, No. 2 Learner's Instruments of new designs, a new and splendid Sounder which has no equal, Eagles' Metallic Battery, and, in fact, everything pertaining to telegraphy, at prices lower than any other house in the trade. A share of your patronage is respectfully solicited. Orders may be addressed to

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Complete and Perfect, full-sized Sounder and Key combined, with Book of Instruction, Battery, Wire, and all Necessary Materials.

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Price, complete, with Battery, Book of Instructions, Wire, and all necessary materials to put in operation, singly or on a short line.....\$8 50

Learners' Instrument, without Battery, &c.....6 50

Ornamental Rubber-Covered Coils, &c.....7 50

Same Instruments, wound with finer silk-covered wires, so as to operate satisfactorily

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THESE PRICES SUBJECT TO OUR USUAL DISCOUNT OF 20 per cent. where money is sent in advance, either by

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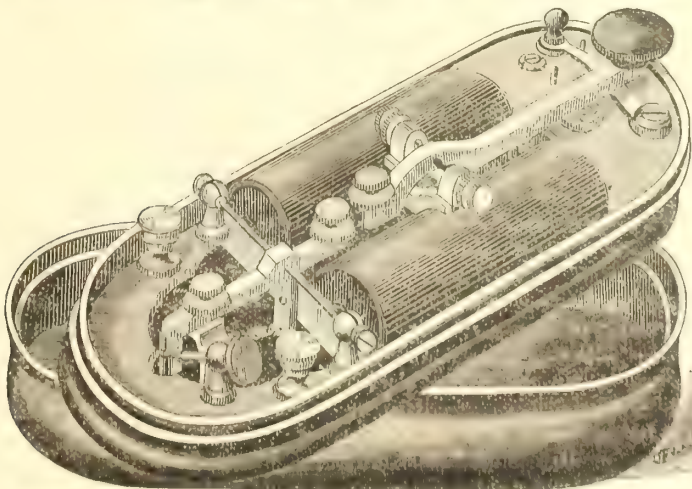
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WESTERN ELECTRIC MANUF'G CO., 220 KINZIE STREET, CHICAGO, ILL. POCKET RELAY. PATENTED JULY 13, 1875.



Our Patent Pocket Relay has an improved key, large enough to be durable and for practical work. It has an independent circuit closer.

The sounding lever is supported by adjustable trunnion screws, and can be readily removed at any time, or adjusted as fine as a relay armature.

The adjustment spring is conveniently arranged, and can be repaired with ease.

The instrument gives a splendid sound.

The case is hard rubber, and the same in length and width as the Caton Pocket Relay Case, and a trifle deeper.

It is pronounced the best finished and most serviceable Pocket Instrument made.

PRICE \$18, or 20 per cent discount if Cash is sent with the Order.

WESTERN ELECTRIC MANUFACTURING CO.

How We Get Our News.

A characteristic of the American people seems to be unbounded faith in matters of every-day occurrence, coupled with a disinclination, perhaps it is, to examine into the miracles which are performed before their very eyes every day. A result of this habit is the general ignorance prevalent on the subject of which this article is to treat; almost every one reads a daily paper, but not one in ten asks how it is made up; and reads at his tea-table telegrams from all parts of the world in blissful ignorance of the many hands that have been employed in gathering those bits of information and in bringing them to him. To shed a little light on this highly interesting subject is the object of this article. We are walking down Broadway, and, if you please, will only go as far as Dey street. Here is the

MAGNIFICENT BUILDING

of a dozen stories lately completed by the Western Union Telegraph Company, and occupied in part by them for their immense business. We are not particularly interested in the business department, which is located on the ground floor, and, passing through to the rear of the receiving room, we will seat ourselves in the elevator. You will not have time to sit down before the door is swung open and we are at the eighth story, so quick has the ascent been accomplished. After certain very brief formalities, we find ourselves in

THE GRAND OPERATING ROOM.

Here is a chance for any stray poetical thoughts which may be floating around in your head, for you are now in the presence of the entire world. There is no similar spot in the inhabited universe; for from this room, by a simple touch of the hand, instant communication may be established with any city or hamlet in the civilized world, and you may learn whether it rains in San Francisco, is foggy in London, cold in St. Petersburg, or sultry hot in Bombay.

The wires which pass over your house here in Hartford, together with nine-tenths of all you have ever seen in your widest journeyings, are conveyed into this room near the top of this lofty building, led through the mammoth switch-board which stands yonder, and then brought to the hundreds of more tables which are scattered throughout the operating room and manned by a small army of gentlemen and ladies. Here the ordinary processes of telegraphing are performed, with no confusion, unnecessary noise or delay. The mess goes up straight up from the room we first entered by means of pneumatic tubes, and distributed by nimble clerks to the appropriate wires. Here sits an operator "working with" Chicago, while his next neighbor is on a cable wire, that is, in communication with Heart's Content, the shore end of the transatlantic Atlantic cable. Here are the printing instruments from Washington or Boston, and next the New Orleans direct line. The city wires (to the telegraph depots, etc.) come in at one end of the long room and are worked by ladies, of whom there are enough to stock an ordinary boarding school. At the other end are the wires on which the latest fluctuations in stock and gold are telegraphed all over the country and to Europe. If you are fortunate enough, and you undoubtedly will be, to obtain an introduction to the able manager of this prodigious business, Mr. Downer, he will, on learning that you are from Hartford, take you to a certain "quad" table about half way down the room and allow "Johnny" Boyle to tell you how time is passing on Central Row.

After taking a turn around the building on the veranda, and enjoying the sweeping view of the city and harbor, we will just look into the battery room, beneath the room we have been inspecting,

The point of interest about the battery room is that it contains 11,000 "cups," closely packed on shelves, and in continual employment on the wires of the company.

THE ASSOCIATED PRESS.

"This is a magnificent exhibition of the telegraph," you say, "but we expect to see something more. How is all this tributary to the press?"

This question will be easiest answered by our going up into the story above the operating room. Here is located the Associated Press. Let us pass through the hall into which we just entered, into the small sanctum at one end. Here is concentrated the intelligence of New England, so to speak, in the person of

AMOS L. LEARNED.

The genial "Amos" who sits at the desk in the corner, smiling with unaffected politeness as he asks us to sit down and "see how the thing runs." It is just now a dull half hour, and our genial host is at liberty. Mr. Learned, or "Amos" as all newspaper men know him, has been in his present position some twenty years—we should say more, but he doesn't look old enough—and probably knows more about the press of the country than any man living. Born in Boston on the spot where now stands the Boston Herald building, brought up in a newspaper office, and being a thorough business man, he very naturally slid into the position of New York agent of the New England Associated Press when that association was originated.

When we have finished our remarks on the weather and are about launching out on the theme of all interest here, a boy enters with two sheets of manifold paper closely written, which he places on Mr. Learned's desk. Quickly running his eye over them, the agent gauges the merit of one of them and files the other (for they are twin sheets). In case the items on the paper are of no importance, they immediately go to "the spittoon report" as the waste-paper basket is felicitously termed; if otherwise, the pencil is run through them, striking out the "the's" and other small words; the sheet is directed "Boston and Way East," and a boy is summoned to take it to the operating room below for transmission to its several destinations.

After passing a delightful hour with Amos, and accepting or declining his innumerable invitation to dine with him in his office, his attention to business does not allow him to go out of the building during office hours, and he fares sumptuously every day on the viands provided by the telegraph company—we will now return to the operating room to see what becomes of our despatches after they leave the agent's hands.

THE TRANSMISSION OF PRESS DESPATCHES.

Putting ourselves under the guidance of Mr. George K. Walcott (a Hartford boy, by the way), we very soon find ourselves at a table near the centre of the room, where a young man, holding a sheet of manifold in one hand, is industriously, and, it seems to us, with lightning velocity, sending with his right hand. Here is perhaps the greatest marvel of all. Mr. Learned reaches his office at eight o'clock, and very soon his first sheet of "copy" is laid on the operating table. The operator who is assigned to the duty immediately "calls up" in succession New Bedford, Fall River, Boston, Providence, Worcester, Springfield, Hartford, and New London (via New Haven). Having gained the attention of these eight cities, he without delay proceeds to send the news to them at usually an astonishing rate of speed. Of course only the most expert operators are employed in receiving and transmitting the "report," as it is called, for everything is received by the ear and written at the same time with the fingers on paper for the printers in the several cities.

IN HARTFORD.

Now, having seen the news sent from New York, and thanking our chaperon for his courtesy, we will betake ourselves to Hartford, for we are trying, you remember, to see how *The Times* gets its news. The press wire is at the last table on the right as we enter the office on Central Row, and Mr. Hubbell kindly allows us to go in and witness Mr. Frank R. Swan, as he is busy receiving the despatches which we shall read again at the ten table. The "sounder" is clicking away so fast that even if we flatter ourselves on possessing a slight knowledge of telegraphy, we are completely astounded at the confusion of "dot" and "dashes" which we hear from the little piece of sounding brass. But Frank don't mind it. He writes as calmly and neatly with a stylus on a double-fold sheet as if he were inditing a tender epistle to some lovely St. Louis lady, instead of translating and committing to paper successive flashes of lightning. In a moment he looks up and ceases writing.

"What's the matter? Why don't you write? The machine is working."

"O, that's nothing,—only some fellow in Worcester or New Bedford 'breaking.' You see, he has missed a word, and is having it repeated."

With this explanation we rest content, and then watch several more sheets filled and passed out to the waiting boys who carry them to *The Times* editorial room. At about ten minutes past three o'clock, the following message comes:—"Good Day, 3:05 p. m., Learned," and our operator puts away his writing materials and is done. The sheets are coming into *The Times* office from nine o'clock a. m. until "Good Day." As they come they are punctuated, filled out (the lesser words supplied), headed, and sent over to the composition room, where a score of compositors find no trouble in putting them into type and into the first, second, third or fourth edition, as the case may be.

The night service is the same in principle, and Mr. William T. Stone writes for our Pratt street neighbor from 6 p. m. until "Good night, Bradford," reaches him, anywhere from two to four o'clock in the morning. In case the associated press agent at either of the cities on the line has any news to give to the world, his despatch is taken by the press operator and put on the wire at the first convenient opportunity, whence it goes through the routine we have already described. While the Beecher trial was dragging its trail of interesting filth through the courts, Mr. Learned's enterprise secured the New England public an extraordinarily good report. Its transmission required the use of an additional wire, which was put in operation between Brooklyn and all the cities on the line. The reception of this news in Hartford was entrusted to Mr. "Sam" Nash, who jocularly threatens to resign his position before the beginning of the second trial.—*Hartford Times*.

Drowned at the Beach.

About eleven o'clock Monday morning, August 23, John Coffee, aged sixteen, and several other boys went in bathing near the creek at the beach. Coffee was known to be a good and bold swimmer, and his companions came out and went in again at a point farther west without any thought that an accident would happen to him. As Coffee did not join them, a half an hour later they went back to the place where they had been bathing, where they found his clothes, but nothing was seen of him. They guessed his fate, and an alarm was given, soon bringing a large number to the beach, who watched for the body. It drifted ashore at half past three. City Marshal Simmons was present, but no inquest was deemed necessary. The body was at once taken to the home of the boy's parents on Swinburne court. Coffee had been employed

for three summers by the Western Union Telegraph Company, the manager of which speaks very highly of him. He was very industrious and enterprising. Young as he was he had saved money enough to buy several cows and go into the milk business.—*Newport News*.

"The Casabianca of 197."

Dedicated to the Hero of the catastrophe by an admirer of courage.

The following poetic exaggeration was prompted by an incident connected with the second destruction by fire of the first Chicago Quad, which occurred August 27:

Brave Eity stood at his perilous post
Until the coils were red,
And swore he never would leave the "roast"
Unless dragged out for dead.

That death lurked nigh, he did not feel—
Of it he did not think—
And though he got a fearful deal,
From it he did not shrink.

Mid fragments round about him strawn,
Not e'en a word he spoke,
But stood as solid as Muldoon,
Enveloped in the smoke.

His comrades cried to him in vain—
The blood was in his eye—
And ere his father's name he'd stain,
He'd lay right down and die.

The fluid played about his form,
In figures small and large,
But he feared naught from such a storm—
Not he, brave Captain George.

And as the moulten paraffine
Ran from the Rheostat,
The only thing that could be seen
Was that old famous hat.

How many an anxious moment passed,
In anguish and despair,
Until a sound was heard at last,
That proved he still was there.

Then with one loud triumphant shout,
The mob by Kitten led
Fell to and dragged the Texan out,
And laid him down for dead.

Look Out for the Quadruplex.

Three hundred cells, Callaud, are used for working the Chicago Quadruplex. Chief Bogart is of the opinion that compound gutta percha melted by heat generated by that battery, imparts a sensation of peculiar anguish. The blisters on his hands will probably be healed in the course of two weeks. The blisters on his memory—never. He thought at first that it was a third Chicago conflagration.

BIRTHS.

At Troy, N. Y., Monday, August 23, to Mr. Geo. P. Riley, cashier of the Albany Western Union office, a daughter.

At Washington, D. C., August 31, a son to W. B. Harvey cutter. A giant sounder! "Oh, I'm so glad."

DIED.

SAWYER.—On the 15th instant, Arabella O., beloved wife of W. H. Sawyer, and daughter of W. H. and J. Baird, of Wilmington, Del.

HELLINGS.—In Key West, Fla., August 9, 1875, of yellow fever, Mary C., wife of manager Hellings, D. O. Tel. Co., in the 24th year of her age. Mrs. Hellings had lost her brother a short time previous and had nursed her husband all through the disease till convalescent, when she was herself taken. She displayed rare courage and fortitude through her trials, and died a christian death, mourned by a large circle of friends.

CORRESPONDENCE.

Look upon this Picture.

ALBANY, N. Y. Aug., 1875.

To the Editor of The Operator:

A simple sense of justice demands at this juncture that I rise and explain. The now well-known title to one of Charles Reade's novels has made a time-honored legend familiar as a household word. When one pronounces the sentiment "put yourself in his place," most persons apprehend at once its scope and signification.

In his recent happy communication *Ralph Rattlepate* gave the readers of THE OPERATOR a truthful and masterly delineation of the new dispensation that has dawned upon us, together with a retrospect of some of the incidents characteristic of the trials, tribulations and happenings of the foregoing two years. Doubtless it has occurred to many that whoever wrote so realistically must have compassed the art of "putting himself in 'somebody else's' place." It is my good fortune to be enabled to let in a glimmer of light upon this partially enigmatical situation. By the majority of well brought up people a "rat" is viewed in no other light than that of an unmitigated nuisance, with reference to the wisdom and necessity of whose existence stubborn skepticism prevails. Of course the *elect* look down upon this deluded class with becoming pity and not a little feeling of conscious superiority. It is human for the unsophisticated to marvel why biologists and naturalists are impelled to prosecute their queer investigations into a department of terrestrial economy that discovers to her eyes nothing but what is catalogued among things horrible, repulsive or insignificant. To attempt to elucidate, to one wilfully blinded by prejudice or preconceived notions, the motives involved were futile indeed. There are, however, in the connection, conversions or semi-conversions, in their way not less peculiar than that of Saul of Tarsus. At the outset *Ralph Rattlepate* had to my knowledge no intimate acquaintance with nor inherent love for "rats;" but the exigencies of business brought about what might not otherwise have transpired. I have seen the gentleman in question, during the earlier stages of matriculation, when his labored countenance would have made a profitable subject for the pencil of Hogarth. In days of yore, before we were elevated in point of temporal surroundings to the high plane we now inhabit, the report boys won enviable renown by their aptitude for catching rats in a box trap, with a figure 4 adjustment. Whenever an exceptionally large one was secured it was customary to remove it to the operating room; this done, doors and other avenues of exit were closed, the unoccupied force armed with broomsticks, clubs, pokers and kindred implements, the cage lifted and the fun and uproar inaugurated in lively earnest. An animal of the persuasion, fighting for dear life, is about as game a customer, for the inches, as one could wish to meet, and not over nice as to the harbor of refuge in which a chance affords of weathering a storm. In the thick of the chase woe is he who exposes an unguarded pantaloon leg. On one memorable occasion the boys let loose a bouncer. *Ralph* was tied down to press and couldn't entertain a hand in the sport—but he could entertain fears of nightmare magnitude. We put that rat through a course of sprouts that kept him severely occupied. I doubt though, if the direct object of our persecution underwent keener agonies of suspense than did the indirect—that object really hadn't the time to spare. A telegraph office is a noisy place at best, but with five excited fellows thwacking around at random, jumping up on chairs and yelling like demented aborigines, it is far more noisy. At the height of the melee the frenzied rat seemed to take

savage pleasure in circling about *Ralph's* chair, essaying to climb it and wildly sighting his perturbed face. I wish you might have seen him then, reader, chair tilted back, both feet elevated on the table and hair standing erect, dodging as best he might the thickly showered blows, intended for his defence but failing vastly of their designs. I can hear those frantic protests now, voiced in the very language of frenzy! Constant friction has mollified *Ralph's* original bias, but it is a trifle flinty yet. Now and then in traversing the devious winding of the old stairs, by dim gaslight, drowsy from his weary struggles with Howell's tardy consignments of copy, he would be startled by an earsplitting squeal, and down to the bottom would go Mr. *Ralph* and the outward bound rat both frightened well nigh out of their senses, pretty nearly annihilating space in their hasty stepplings. *Ralph* is a capital fellow, I'd have you to understand, and I owe him more than can be easily requited, for it is only through his kind offices that my vacations are realized. This spirit of accommodation has proved both a pitfall and a revelation to him. As *Ralph* intimates, my jubilant self congratulations were of short duration. The old museum was bad enough, but the exchange was monstrous. Our first rats were at any rate decent longshoremen; but over the way they came directly from the sewers and out of the river—high water would drive "millions" of them into the old building. The capacity for destruction possessed by such an army is without parallel. Grasshoppers, army worms and the Colorado beetle are not to be mentioned in the same category—they haven't got the density of body and circumference of appetite. Why, those river rats will eat blue vitriol, lick their chops over it and grow fat on it; they will masticate heart oak and shingle nails, and never grimace or show a symptom of dyspepsia; two of them will twist up a section of gas pipe till one would think it had been the sport of a first-class tornado! There is as much individuality and pure "cussedness" about one of these rats as there is about a thoroughbred monkey. I'm inclined to hold, after the theory of Arabian Nights philosophers, that some of them are the spirits of unjust men made imperfect, transformed by genie into these repulsive guises.

Ralph gave me a benefit just before we pulled up stakes over the way, and I hied me to where ran the still waters and invited the green pastures of my native town. He hadn't learned the "ropes" and I hadn't leisure to post him. The first night he neglected to stop up the "air holes." About three o'clock A.M. he was receiving reds from Buffalo; he was about two thirds asleep, hovering on that border land of half-consciousness where all physical objects assume fantastically exaggerated proportions. The room was silent save for the click of one instrument, the gas was turned low and shadows on the great wall to the left were like the reflections from a dark lantern. Amid these unreal surroundings *Ralph* became conscious of intruders; looking down between his feet he saw what appeared to be forms with grotesque, satanic faces, in bulk large as lusty calves; he felt that he was being cautiously moved, chair and all, on the broad backs of these fearful creatures. Visions of wrath to come, of being torn limb from limb by imps and infernal demons flocked in upon his wild fancy, visions that would have done credit to Victor Hugo in his most billious moods; realizing the awful force of the situation, like another Sampson bursting the green withs of the Philistines, with a Herculean effort he snapped the deathly bonds of lethargy, dropped his rigid pen and sprang high in air. The spell was broken—and so was Buffalo—there was a frightened stampede, no bones were broken, nor blood was shed, but *Ralph* wouldn't undergo the ordeal again for worlds. Truly he

lived so much in those brief moments it made his memory "ache."

If you should ever wish to hear the "old man eloquent" at his best just broach the subject of rats, bottle bellied spiders or grey-backed bed bugs! I venture to guarantee as a result an entertainment of its kind nowhere else procurable.

We occupy apartments now! Apartments? Yes sir, apartments and nothing short; quarters won't do the business; its too common—five-story-and-a-half apartments. We are higher up in the world than any body else in our neighborhood, and we mean to hold fast what we've got. I have a trump card now. I got in with the plumber; I beguiled him into attaching fifty feet of hose to the main water pipe—it works as slick as the new base drum double transmitter sent Charley King the other day from New York. I can flood the whole consummit institute in five minutes. Yes, and polish off an incendiary or two to boot I think.

Dante instructed mankind that visions of things past sometimes come back to denizens of earth, and were seen with all the vividness and palpability of materialized spirits. It wasn't that sort of a phenomena this time; it was a foolhardy, pioneer rat. With undaunted resolution he had climbed the five-story-and-a-half stairs, a wanderer in a strange land; he slipped in through the door, inadvertently left ajar, proceeded a few feet into that lofty, gilt edged veneered room, and stopped stark still. There was a wild light in his eye that betokened dawning insanity—the transmutation was too many for him; his glance took in the new pneumatic tube, the "drop" with its wonder revealing mirror, the chaste, elegant chandeliers, the "Quad," with its interminable "new fangled" rigging, the black walnut chairs, that prodigious "hole in the wall"—he didn't get in the draft of it, or his speculations would have been cut short—he discovered "W." seated at his spacious report table, spic-span in a stand-up collar and immaculate white neck-tie—I thought just then that a spark of recognition instantly shone in his eye, but it faded as the great switch-board dawned upon him. He gazed upon the carved pendants, the ornate cornice, the shining brass bars and the rose wood pannels that reflected and magnified his ratship as would a polished shield; just here that ruthless pneumatic tube sent up a box with a terrific whew, and the crazy "buzzer" raised a hullabaloo well calculated to disconcert a novice; and, too, one of the boys caught a glimpse of the venturesome explorer, grabbed an umbrella—everybody has one of these indisensibles strapped at back continually hereabouts—and started; it was entirely unnecessary; the "buzzer" had been adequate as a send-off. It is a fact that I do not actually know the sequel, but I'll wager a respectable amount that when our visiting gentleman called the faithful together, and told what he had seen, that they swooped down on him to attack, not leaving so much as a grease spot to indicate the fact of a hyperbole vendor.

We are happy to a man. We are exceedingly good natured, or ought to be if we are not. Consciously or unconsciously we have spruced up a good deal too. We feel as proud as a hen with her first chicken. The only half born doubt that vexes us is the "heating apparatus." Its night, breezy where we are—an excellent summer office, but without superior facilities for warming in winter it will be too cold to tell the truth.

RUFUS NOXON.

The Spanish Government has adopted the Hughes printing telegraph instrument and its inventor has been made a Baron. Baron Hughes is his title in Spain, and we presume that all the rest of mankind will agree in conferring it upon him whenever they speak of him.

The Operator.

PUBLISHED BY

WILLIAMS & BENNETT.

T. ALLEN, Editor.

Volume IV. - - - Whole No. 38.

NEW YORK, SEPTEMBER 1, 1875.

TO OPERATORS.

THE OPERATOR has now the largest circulation of any telegraph paper published in the United States, but as we are desirous of increasing it, we offer as an additional inducement to subscribers **very handsome visiting or address cards** to each new subscriber for the year. The same offer applies to renewals and clubs. The cost of these cards would nearly equal the price of a year's subscription, if ordered separately. Subscriptions should in all cases be accompanied by the cash or a Post Office order.

NOT SO.

In reply to a card published in *The Telegrapher* last week, we have only to say, at present, that THE OPERATOR has not consolidated with *The Telegrapher*, and does not propose to do so. That steps were taken by one of its former publishers looking to such a consummation, we do not deny, but further than this we do not feel at liberty to explain, unless circumstances shall render necessary a detailed statement of the facts. Our readers, however, may rest satisfied with the assurance on our part that our paper (and *their* paper) is now established on a firmer basis than at any previous time since its foundation, and with ample capital, unbounded energy, and a firm reliance on their good-will and support, we propose to make it in the future, as we have sought to do in the past, the telegraph paper of America.

THE BASIS OF CONSOLIDATION.

The facts about the result of the meeting of the consolidated committee of the Western Union and Atlantic and Pacific Telegraph Companies are as follows: The plan for consolidation or combination (it will be seen to be either or both) agreed upon for submission to the boards of direction of both companies, is to capitalize the companies upon a basis of \$36,500,000, \$34,000,000 representing the Western Union, and \$2,500,000 the Atlantic and Pacific. After the consolidation the same dividend to be paid upon one share of Western Union as upon four shares of Atlantic and Pacific; i.e., if the present quarterly dividend of 2 per cent be continued by the Western Union, shares of the Atlantic and Pacific receive 1-2 per cent, or one-fourth of the 2 per cent due on Western Union shares. Each individual shareholder in the Atlantic and Pacific Company shall have the right to consolidate with the Western Union by the exchange of four shares of his stock for one of the other. This basis is represented as much more just to both sides than an arbitrary rental at so much per year, inasmuch as in the advent of adversity or prosperity the rule would be share and share alike.

It may not be amiss to state in this connection, that the lines of the Atlantic and Pacific Company have, during the spring and summer, been greatly improved and new lines constructed. Instead of the Company being in an insolvent condition,

they are out of debt, and the rumors to the contrary are entirely erroneous.

P. S.—Since writing the above, we learn that a hitch has occurred in the arrangements for consolidation. The many conflicting rumors in regard to this important movement render it impossible to arrive at positive conclusions, and we can therefore give this new statement only for what it is worth.

The Directors of the Atlantic and Pacific Company met on Tuesday of this week, but refused to give the result of their deliberations to the public. It is said, however, that they discussed the consolidation scheme, and decided that the proposition informally made by some of the Western Union Directors did not meet their views. A story was current in Wall street that the hitch in the arrangements did not arise so much from a dislike of the terms offered by the Western Union men, as from a desire to make a better bargain with the new National Telegraph Company of San Francisco. It was said that this company was anxious to acquire the lines of the Atlantic and Pacific as a nucleus for their great enterprise, and were willing to outbid the Western Union. This story was denied by Mr. Sydney Dillon, who said there was some talk of this bargain eight months ago, but that it had been abandoned. Mr. Dillon refused to say what were the prospects of the consolidation negotiations, although it is said by persons who profess to know, that they were brought to an end at the meeting above referred to.

WHAT PRESIDENT ORTON SAYS.

Mr. Orton, President of the Western Union, stated to a reporter of THE TRIBUNE that it had been an open secret for a week or two past that a Conference Committee, appointed by the two Companies, had been holding meetings for the purpose of agreeing upon some plan of consolidation. This Committee, as he understood, had agreed upon a plan to be submitted to the Boards of Management of the respective Companies, but it would be discourteous in him to say what that agreement was, at least until the Conference Committee should make a report, which they had not yet done. "Indeed," he said, "they have had no time yet for anything of the kind, as it was only this forenoon" (August 27th) "that they agreed among themselves. I suppose the report will not be submitted to our Executive Committee before the next regular meeting, which takes place next Wednesday. Our Board of Directors is composed of 29 members, and consequently the greater part of our business is transacted, according to the by-laws of the company, by an Executive Committee. It will depend upon the character of the proposition whether or not it will be necessary to submit it to the Board of Directors. I can say nothing regarding the details of the plan proposed. I do not yet know myself what they are. If it should be found necessary, however, to submit the matter to the Board of Directors of our Company, there will be no necessity for any considerable delay, as the next quarterly meeting of the Board will take place about Sept. 10."

The California Failure.

It is currently reported that the failure of the Bank of California will prove disastrous to the new National Telegraph Company. On the other hand we hear that Mr. A. A. Cohen, the Presi-

dent of the telegraph company, is on his way to this city having full power to amalgamate the Atlantic and Pacific Company with his organization.

JAY GOULD.

It is an open secret on the street that we have been on two occasions saved from a disastrous panic by Jay Gould. At the time of the failure of Duncan, Sherman & Co., Gould was long of stocks, and when the bears, frightened at the prospect of a panic, hastened to sell, he kept up the market by steadily buying. The failure of the Bank of California would likewise have precipitated a panic had not Gould alone held up the market. The man is naturally a bear, but since he has become the owner of the Union Pacific, the Pacific Mail, and the Western Union, his circumstances compel him to be a bull in spite of his judgement. Had it been to his interest during the last two months to be a bear the sole prop that has held up the market would have been wanting, and we should have had one, if not two, widespread and disastrous panics.

THE NEW NATIONAL TELEGRAPH CO.

The following is the certificate of the Secretary of State giving the terms of incorporation of the National Telegraph Company, and showing that the provisions of the civil code of the State have been fully complied with:

STATE OF CALIFORNIA, DEPARTMENT OF STATE,
SACRAMENTO, July 9, 1875.

I, Drury Melone, Secretary of State of the State of California, do hereby certify that a copy of articles of incorporation was filed in this office pursuant to the provisions of the civil code, on the ninth day of July, A. D. 1875, containing the following statement of facts:

First—That the name of the corporation is the National Telegraph Company.

Second—That the purpose for which it is formed is the construction and maintenance of a system of telegraph lines to connect the cities of the United States and Canada.

Third—The place where its principle business is to be transacted is in the City and County of San Francisco, Cal.

Fourth—The term for which it is to exist is fifty years.

Fifth—The number of its directors or trustees is seven, and the names and residence of those who are appointed to serve until the election and qualification of others are: Micheal Reese, residence, San Mateo County; Colvin W. Kellogg, residence, San Francisco; James R. Keene, residence, San Francisco; Faxon D. Atherton, residence, San Mateo County; William Sharon, residence, Virginia City, Nevada; William Burling, residence, San Francisco; Alfred A. Cohen, residence, Alameda County.

Sixth—The amount of its capital stock is \$25,000,000, and the number of shares into which it is divided is 250,000.

Seventh—The amount of capital stock actually subscribed is \$7,500,000, being one hundred dollars for each and every mile of said contemplated telegraph lines.

Also the following facts:

First—That the kind of line intended to be constructed is a common telegraph line.

Second—That the place from which and to which it is intended to run is San Francisco and New York, and it is intended to connect with these lines all the principle cities of the United States and Canada.

Third—That the estimated length of the lines is 75,000 miles.

Fourth—That at least ten per cent, of the capital stock subscribed has been paid in to the treasurer of the corporation, and that the persons above named as directors or trustees, and their associates and assigns, are a body politic and corporate by the name above designated.

Witness my hand and the great seal of the State office, in the City of Sacramento, Cal., the ninth day of July, A. D. 1875.

(Signed) DRURY MELONE, Secretary of State.

The Secret of Perfect Service.

The civil service in Great Britain, and especially the Post-Office, is the most perfect service in the world. The employes are appointed for life, and are paid fair salaries; and as a consequence they are honest, faithful, and intelligent. The English Government does not pay what is here called the "market price;" it pays its officials a fair living rate. It is a curious commentary on recent discussions in this city relative to cutting down the laborers' pay to "market rates" that aristocratic and kingly England rejects that method of dealing with her employes, which is supposed to be the "right thing" in democratic America.

Rufus Novum.

We have seen a printed copy of the Fourth of July oration, "A glance at the practical question of the hour," delivered at Adams, N. Y., by John R. Van Wormer, (Rufus Novum) of the Western Union office, Albany, N. Y. It is a magnificent effort, and stamps our friend not only as a well read but a brilliant and accomplished scholar.

"A Telegrapher's Reminiscence," which appeared in number seven of the last volume of THE OPERATOR was from the pen of this gentleman, and was one of the very best productions that has appeared in our paper.

A Distinguished Arrival.

Captain George Eitemiller, of Texas, one of the best telegraphers in the services, is with us working on the Chicago Quadruplex. "Eity" is a valuable addition to the splendid force of telegraphers now at 197 Broadway.

PERSONAL.

Ed. Morton is on our night force.

F. H. Murray is operator at Kittrells, N. C.

E. W. Emery is working for the W. U. at Cheyenne.

Frank Voelcker is manager of the W. U. office at Bryan, Texas.

E. E. Johnson has charge of the W. U. office at Clinton, Mass.

E. C. Burks is manager of the W. U. office at Hearne, Texas.

J. R. Kemp is manager of the W. U. office at Brenham, Texas.

Will W. Harris is manager of the W. U. office at Milliken, Texas.

R. J. McKee is at Camp Robinson, Nebraska, Red Cloud agency.

W. A. Clements is in the Old Colony R. R. office at East Milton, Mass.

Willett T. Bingham is in the D. L. & W. R. R. office at Orange, N. J.

R. A. Bagnell is in the telegraph office of the Old Colony R. R. at Boston.

Mr. W. A. McEnroe of the day force has returned from a two weeks' vacation.

Chas. P. Jones is in the D. and H. C. Co.'s office at Providence, Pennsylvania.

James T. Woodworth is in the W. U. office at Canterbury, York County, N. B.

George Judkins is in the United States & Canada Express office at Claremont, N. H.

Miss Nellie Sponagle is in charge of the telegraph office at Lunenburg, Nova Scotia.

B. P. Cooper, formerly of the Erie R. R., is at Paris, Texas, on the Texas and Pacific R. R.

The Punta Rassa cable is temporarily interrupted. Messages for Key West are forwarded by steamer.

Mr. Edward H. Kearney has returned from a six weeks' vacation looking as brown as a berry.

R. E. White of the D. & H. C. Co., Scranton, Pa., says he can't live without THE OPERATOR.

That boy of Dennis Brown's is an adept in the Manual of Arms.

Joe Hurley has resigned and leaves here September 15. His destination is probably the South.

Frank Jones, better known as "Dutchy," leaves for a three weeks' trip to the West to-day. We wish him a first-class time.

James Austin, of the W. U. office, Washington, D. C., is as white a man as we have met with in a very long time.

We return our thanks to Mrs. Parker of the Western Union office, Woonsocket, R. I., for her kindness to THE OPERATOR.

Miss Maggie McDonald has charge of the telegraph office at Mahone Bay, Lunenburg Co., Nova Scotia.

Mr. W. J. Morrison, operator in the C. N. D. Department of this office, has resumed duty after a severe and protracted illness.

Senor Araondo, manager of Havana office, and who is also a colonel in the Spanish army, was among our recent visitors.

The Southern & Atlantic Company are successfully working a wire duplex between Washington, D. C., and Charleston, S. C.

After a short sojourn in the "States," Mr. William Boisvert has returned to his home at Sorel, Que.

H. H. Hunting of the W. U. office at Southold, N. Y., has always a kindly word for us, and what is still better, buys our paper.

Mr. James F. Quinn of the W. U. office, south west corner of Front and Chestnut streets, Philadelphia, looks after our interests in that city.

Mr. James Bligh of the Western Union office, Washington, D. C., has kindly consented to act as agent for THE OPERATOR in that city.

G. H. Austin of the Northern Central R. R. telegraph office, Elmira, N. Y., says that our paper is always a welcome visitor.

D. W. H. Voorhies has resigned his position at Allen's Rancho, Texas, and is, we believe, at present in St. Louis.

Chas. A. Nimms of the Troy and Boston R. R. at Troy, N. Y. takes a good deal of stock in THE OPERATOR.

C. F. Lamy is ticket agent at the general passenger's office of the Baltimore and Ohio R. R., at 261 Broadway, N. Y.

P. H. Shaughnessy, formerly of the Manhattan Quotation Co., and at one time chief operator at 145 Broadway, is at present in Wappingers Falls, N. Y., engaged in other business.

The friends of Hamilton Fitchett will be pleased to hear that he is improving rapidly, and his physicians hold out strong hopes of his entire recovery at an early day.

As will be seen elsewhere, Mr. W. H. Sawyer, of the American District Telegraph Co., Philadelphia, has met with a sad bereavement in the loss of his beloved wife. We are truly sorry, and respectfully tender to him our profound sympathy.

We understand that Mr. George Little has sold his entire interest in Automatic Telegraphy (of which it appears he had very little to do) to Mr. Jay Gould for \$3,200 cash. This will probably retire Mr. Little from the assistant editorship of THE TELE-
grapher.

CORRESPONDENCE.

The Saratoga Aristocrats Embalmed in Song.

SARATOGA, Aug. 29, 1875.

That something was wrong was evident; but what it was deponent sayeth not. The general air of negligence which pervaded the office, and rows of brogans which adorned the tables but lately dedicated to the blank destroying and ink devouring of a steady roast, proved conclusively that the season had "busted" and the "vacation" was over for the year. And the faint odor of smoke and old clothes which leaked out through the keyhole and crevices of the back room door, but added confirmation to the well-founded opinion. But whence the inspiration which produced the poetry, heartrending and horrible, which added a doubtful fragrance to the office air? Was it from Schmidt's "Germania?" Possibly, for the ball was opened by a sepulchral voice from beneath the "Quad" with

"The man with the 'soft job' is Hill!
Who has daily a whole book to fill;
But of beer or such stuff
He can't get enough,
When anyone else foots the bill!"

The insulted one arose, and *would* have explained, had not the next, by way of improvement, squelched him with

"There was a young rooster named Hill,
Whom it took seven schooners to fill;
But he said 'twas not true,
And he swore by his shoe
That his stomach held only a gill!"

Cries of "Bravo!" and "Give it back to him. Schooner!" were effectual, and the last poet felt bad when he heard

"At the 'States' there's a clod pole named Chad,
Whose sending is horribly bad;
Poor 'V' tries to shake him,
But 'Shad' makes him take him,
Which makes our friend Albany mad!"

A suppressed howl or war-whoop of assent comes gurgling from our friend "Maggie Mitchell," and the penalty would have been paid in a bad one on him, if any rhymes had turned up for Fancher or "Fanchon the Cricket."

Taking a skip, the baleful blast next fell on our "gay gambolier."

"Short Williams for short is called The,
And his coolness is gorgeous to see:
When at betting he's broke,
He gives forth but one croak,
Which is, 'Patrick, just lend me a V'"

A sigh, a spasmodic slap on an empty pocket, and a very red nose and ruby lip sinks out of sight in utter discomfiture, only to be brought forth to sight by the next laugh on

"George Wheelock came here from afar—
His credit was way below par.
When stuck for the beer,
He felt awful queer,
'Say, Ned, have you got a cigar?'"

This was sent across the street by telegraph, and elicited a heap of abuse from Congress Hall, and a strong application of ground wire, which wouldn't work for some reason or other. (Brusie might explain, but wasn't in.) Up came "Germania" again in the next.

"Says Patrick, 'Now, boys, look at here,
(And smiled while absorbing his beer,

Five glasses, you know,
Is our regular go—
Ten makes a man feel deuced queer'"

The door slammed just then, and a departing form was seen meandering toward the bank. The most prominent mark left was the broadside of a New

York Times held up as a shield. It didn't shield worth a cent—for

"To Brown for more help the bass went,

And O'Reilly from New York was sent

He came up in the rain,

With white necktie and cane,

And we booked him as 'first walking gent.'"

The "Bonanza" had the bad taste to smile audibly. It cost him dear!

"There was a Hin man from the West,

Who sported a gorgeous white vest,

He came to the Springs

To have some soft things,

But doesn't think much of his rest!"

The smile gradually faded, but enough remained to warrant a second application:

"Says Hinman to Hill, 'Let us guzzle!

I feel sort o' dry round the muzzle.'

Says Williams, 'Oh Lord!

Hear this man on the Quad—

His sending is one perfect puzzle!"

Which was a "bad stiff" on us all, as he was about as far from the Quad as the office would allow, and had hat and cane in hand all ready to skip down to the Grand Union piazza to escape the dressing down he deserved.

The tide turned on a suppressed titter from the battery room, which was instantly recognized and responded to with

"Ned Chase doesn't want us to tell

How he beaus round that rich Georgia belle,

But with white-chokered throat

And clawhammer coat

He's really no end of a swell."

Of course the delegate from Maine had to come in too, with a surprising sweeper which exposed a knowledge of bible history which we had supposed belonged only to Williams and the "Inevitable W."

"Bible handles" we truly admire,

There's 'Thomas' and 'John with his briar'

With 'La Petite Dave'

(That roguish young knave)

And his partner, who must be 'Goliath!'

A spasmodic snap, and a sound of creaking joints, exposed the "Granger." He had removed his hat and dropped into the lowest chair, but still failed to hide his blushing face, for his head yet grazed the gas pipe.

"Manager 'T.' smooth-faced and sublime,

Smiles blandly and child-like and don't care a dime,

He sometimes will joke

And enjoys a good stroke

But to 'carry a trunk' he never has time."

(A still denser cloud from the closet door key hole.)

"Poor Kay smelt out at the lake,

Like a martyr is tied to the stake,

But still makes the best

Of a lot of hard rest,

Which isn't a bad thing to take!"

(Reported to Moon's by wire, but Kay was out fishing, and the bar tenders couldn't read by sound.)

"And now comes a voice from the 'Hub,'

'Saratoga's a regular rub!'

Says Boardman Forsyth

We all slept on the roof,

But what fattened me up was the grub!"

'Cries of "Hear! Hear! He still lives! The pictures didn't finish him!" drowned finally by

"Say! Why don't you answer that call?"

Says Hinman, 'I've had a bad fall,

While scratching my nose

I fell into a doze,

And I'm blest if I heard it at all!"

Battery room again heard from, but promptly silenced with

"In the tent each day of the race

Each 'op.' had a roast, except Chase.

He, knowing the ropes,

Realized all his hopes,

And scooped a three mile steeple-chase."

Pretty near the end of the list—some one counted noses to find the next victim—"All done?" "No."

"There's innocent Rankin from Troy,

He's truly a spunkin' young boy,

One thing he can do,

And that's 'sling 'em q'

While his copy is without alloy."

The air was rosy with blushes, and there were indications of preparations for another slap all round, but the crash of falling furniture, a shout of "bugs on the quad," and a general din, cut short poetic musings; and Tennyson's pre-eminence was assailed no more.

The cause of the trouble—what was it?

Our cashier had gone to deposit.

Short Williams and Hill

Were having a "mill"

With Owen locked up in the closet!

NCF CED.

Sensible Talk.—A Musical Composition.—New Duplex.—Personals.

Boston, August 25, 1875.

To the Editor of The Operator:

Hot or cold the old mill must be kept going, but the laborers therein have found it hard to feel resigned to that dispensation of Providence which imposes on us the necessity of working, with the thermometer boiling over the top of the tube. We sigh for wealth, or at least for a comfortable income, which would place a month of Saratoga or Newport during the season, within our reach—and we go on smoking 20 cent cigars and indulging in other expenditures which would have made Com. Vanderbilt stand aghast in his young days. What a hard cheek a man has to do that, and still grumble because he can't raise himself out of his poverty. We have examples enough. Hardly one man in a thousand of those who are wealthy and influential to day, but was at the start as poor as any of us. The trouble is, we haven't the nerve to deny ourselves the luxuries we have allowed ourselves to become accustomed to, and the inevitable result is, and will be, a hard to month existence, until we practice a little self denial, and begin to salt a little scrip. These reflections occurred to me quite forcibly the other day, as I entered the operating room and saw the perspiration streaming from the faces of the boys at work, while the thermometer stood at 90.

There has been but few changes here this summer. The boys are evidently beginning to understand that the halcyon days of telegraphy are gone. We discovered it here in the East some years since, but down South they have but recently come to a realizing sense of the fact. The prospect for a young man here in New England is truly a discouraging one. No reductions in salaries have been made directly so far as I am aware, and we hope there will be none, but salaries are being brought gradually to a much lower figure than prevailed five years ago. Knowing this, those who have good positions are now careful to keep them. This policy of the Company must in time wholly change the nomadic character of the telegraphic profession; the working force in the large cities will become more local and permanent, and it cannot be denied that this change will be for the better.

Mr. G. F. Milliken has recently published another musical composition, "The Red Stocking Polka," dedicated to our boss base ball club. The young lady who hammers the piano up where I board, and keeps me awake, has it down fine, and it is

really a fine composition. The music is pretty and, with its title, should render it very popular.

Mr. P. G. McMahon ("Paddy Mack") is taking a month's vacation. The last we heard of him he was fishing along the South Shore.

Mr. E. F. Pillsbury, one of the old men of the Pine Tree State, has been subbing here for a few weeks. He worthily upholds the down East reputation for immense stature. One can't help wondering where he and Stan can find room for two such pairs of understandings as theirs under one table.

Mr. J. J. C. Wilson has applied for a patent on a new duplex which he has evolved from his inner consciousness. His plan seems to be entirely different in principle from anything which has been brought out yet, and he claims to have proved its feasibility to his own satisfaction.

I would describe it if I knew enough about it to do so intelligibly, but I don't.

Mr. Wilson patented a duplex telegraph some years ago, which the Western Union electricians sought to develop into a practical system, but without success. This duplex was based on the cutting in and out of resistances. We hope his present idea will prove a success. At all events, that man must be well posted on electrical matters who asserts that Wilson is mistaken in his theories.

The little seaport of Wood's Hole has become quite an important place, telegraphically, during the last year or two. This season two operators have been required in addition to the regular operator there, Miss Hinckley, Miss Kite, formerly of the South End office, Boston, and Mr. T. F. Bishop, of 109 State Street, having been detailed to assist during the season. Evidently they have had an opportunity to "assist" quite liberally at all hours between 8 A. M. and 12 P. M. At Oak Bluffs Miss Louisa Cracker, formerly of the B. and A. depot office, has officiated during the present season.

Mr. Thomas Kelly, our heavy report man, will pass a month's vacation in the provinces, accompanied, of course, by his wife and son. He will take this occasion to point out to "the boy" the scenes of his own childhood's struggles, triumphs, and failures, and to inspire him with a becoming admiration for the grandeur of Nova Scotia scenery. Long live the boy.

Mr. H. J. Pettingill, our "all night" man, has gone on a ten days' trip down East.

Mr. J. S. Whitacre of the Portland duplex is also off on a two weeks' vacation.

The air is laden with matrimonial rumors of more or less probability. If these rumors can be credited there is a probability that two or three splices will be made in our ranks during the coming fall.

The division of the Eastern Associated Press wire at Boston, creates a new position here, which is filled by Mr. O'Connors, formerly of Springfield, who will sling the A. P. report at Fall River, Taunton, and New Bedford, during the day. At night New Bedford is placed on the Eastern report wire through a repeater, and Mr. Robinson handles it.

Things have been rather quiet and monotonous at the Hub this season, and bid fair to continue so indefinitely.

J. S.

Vacation.—Arrivals.—Departures.—Base Ball.

CHICAGO, Aug. 25, 1875.

To The Editor of The Operator:

The season of vacation seems to have arrived just now (that is if we are able to find substitutes) and some few of our force have taken their balances from their bankers, or else managed to accumulate a little of Uncle Sam's green tinted paper through extra work, and having duly decided where to dispose of the medium of exchange for pleasure, proceed to do so.

Among those now away are Miss Lizzie Veazey, who has taken a trip countryward to have a much needed period of rest from the labors incidental to the St. Louis Duplex. We understand she has gone to Galena, Illinois, for her vacation. Messrs. Sam Bracken, of the St. Paul wire nights, and Fred Cushing, of the Pittsburgh duplex, nights, are having an extensive vacation, and are bound to see a good share of the West and Northwest before they get back.

Mr. L. K. Whitcomb, of the Dubuque wire, has gone to Bloomington for ten days. Tom Knox starts in the morning for a trip to Niagara we understand, while J. N. Crittenton, of the "CM" Milwaukee duplex takes a trip to Detroit via the Lakes for recreation, stopping on his way back over the Michigan Central Railroad at several places where his boyhood was spent studying and trying to climb the telegraphic ladder to fame. Amsden, of the "Ux," St. Louis duplex, is also away enjoying himself hugely.

We have had considerable number of new arrivals in camp lately: first and foremost is a young Foote in the family of D. S. Foote, about a week since. He is a boy of the male persuasion, weight ten pounds. Again we say this is not much of a year for boys. Messrs. Miner, Haight, L. H. Fisher, G. E. Millar, C. E. Wilkinson, M. J. Burke, J. S. Henderson, H. M. Goewey and P. H. Grey, are the arrivals since the first inst. Perhaps some of your readers will recognize some of the old timers among them.

The departures are Messrs. Hazelton, Mauners and Cuthbert, latter two gone to A. and P. Co., here in Chicago.

Our base ballists have been playing a few games lately just to keep their hands in. On the 14th inst. they tackled a nine from the stock yards and took the smallest score, the totals being Stock Yards 35, W. U. Tel. 17. On the 17th they gave the nine from the *Tribune* the best they had in the shop, and defeated them by a score of 15 to 14 in seven innings, and on the 21st they gave (second dose) to the *Inter-Ocean* nine a bad racking, resulting 17 for the Tel-graphers to 6 for the Inter-Oceanites in five innings. But I must end. S. PEX.

Absentees—How to Protect Peaches—The Phelps Motor.

WASHINGTON, D. C., Aug. 25, 1875.

To the Editor of The Operator :

Frank Lowry, of the A. and P. office here, has accepted a position with the W. U. at New York, and will report on the 1st inst.

Quite a number of telegraphers are away on vacations—Fred, Marean in Pennsylvania and New York, McArthur at the Virginia Springs, where there is evidently a strong attraction, Kanede in Maryland, and others preparing to follow.

Diven has returned from his jaunt, looking finely as usual. "Fat Jack" Lombard took a few days at Fair Haven, on Chesapeake Bay; but to the casual observer it failed to affect his rotundity to any great extent.

W. H. Young, day chief, has returned from his visit East, whither he went to attend the meeting of the Grand Council of the Sons of Jonadab, in which he holds a high position here. He was elected Sovereign Grand Patriarch for the ensuing year. He had a jolly time, but don't think New York office can compare with the W. U. Washington office.

Bob Wynne has been transferred to the day force during the absence of McArthur.

Mr. Marean has a fine peach tree in his garden, towards which the small boys of the neighborhood have cast covetous glances; and, to prevent their covetousness getting the better of their honesty, he

has arranged a burglar alarm, and attached it to different points about the tree. The boys are in a quandary. They want the peaches, but fear there is some infernal machine concealed about the premises and connected to the wires; but if their fear holds out a few days, Marean will save his peaches.

The injunction served on Gamewell & Co. by a few disappointed bidders to stop the construction of the new fire-alarm telegraph in this city, for which Gamewell & Co. have the contract, has been dissolved, and the work is proceeding rapidly, and as far as can be seen, in a very thorough manner.

The American District Telegraph Co. have erected a box in the main office of the W. U. *pro bono publico*.

We are sorry to announce that the infant son of Mr. J. C. Noyes, chief of the clerical department, died a few weeks ago of cholera infantum.

Clem Brown, the handsome man, of Wilmington, N. C., is in the city on a visit.

C. G. Merriwether, Superintendent at Mobile, also paid us a visit last week.

Tom, Morrison, the Government operator at the State Department, is away on a vacation, and Harvey-cutter is running his office during his absence.

Story (our handsome man) is still here with his circular mirror. He is expending a terrible amount of energy on a goatee—and how that mirror does suffer in consequence!

The Phelps Motor has been finally adopted on our New York circuit, and the colored gentlemen who did the circular work on the Combination have been released.

The Plug's Soliloquy.

[Respectfully dedicated to the Profession.]

AFTER SHAKESPEARE—A LONG WAY.

Farewell, a long farewell, to all my greatness! This is the state of plugs—to-day he grasps The key in confidence: to-morrow, ditto. The third day comes a bull—a fearful bull—And when he thinks "I'm rushing 'em! Full surely My fame is spreading widely"—nips his conceit, And then he groans in anguish.

He has ventured From out the mysterious realms of Plugdom Into competition with old stagers— But far beyond his depth. His haughty head At length is humbled low, and now he is left "On the sharp and ragged edge," to the mercy Of a rude throng, who pitilessly gibe him. Vain pomp of never breaking now he hates— He feels his eyes new opened. O, how wretched Is that poor man who boasts of fancy copies! There is betwixt that fame he would aspire to— That lustrous name he covets—and his plugdom, Much wasted blanks, poor copies and bad bulls; But when he falls 'tis not like Lucifer— He hopes, and falls again.

A Large Coil.

("BY INDUCTORIUM.")

I regret that numerous engagements have prevented me from fulfilling my promise before. I will now proceed to describe as briefly as I can, consistent with perspicuity, the method I adopted in constructing the large coil of which I spoke in my last letter to you, and which my friend, for whom I made it, tells me now gives a 12-1-2 in. spark. I assume that the construction of the core and primary are so well known as to need no description. I always make mine separate, so as to slide in and out of the ebonite tube. Therefore I will only describe my *modus operandi* of building up the secondary.

First—I procured a quantity of that fine kind of paper known as "foreign post." I then cut it up into squares about the size of the disc I required; I dried them carefully before a hot fire, and divided

them into packets of six sheet. I then melted paraffin in a large and somewhat shallow dish, and dipped each of these six sheet packets, while still hot, into the melted paraffin—kept moderately heated by a Bunsen burner. They were dipped, mind, *six at a time not separately*. As they lay on the bottom of the tin dish I rubbed them along with a glass rod, conveniently bent, to squeeze out the air, drew them out of the dish between the glass rod pressed close to the side of the dish, so as to get rid of the superfluous paraffin, held them up to drain for a few seconds, and hung them up to cool. Next I made a template of zinc in the form of a flat ring—the outside diameter being about 1-2 in. larger all around than I intended my discs to be; the diameter of hole of the ring being that of the outside of the ebonite tube. I then took my paraffined sheets, now about the consistence of thick cardboard, and with this template as a guide, I cut out all my insulating rings. I simply give the way I did them; other methods equally good may suggest themselves to your readers, but I found this very expeditious.

Now for the discs of wire themselves: these are somewhat more difficult. I had two discs of very stout sheet brass made: one face of each was turned up with the side rest and smoothed to a perfectly flat surface. One of the discs was attached to a stout spindle—the other slipped on loose, and was screwed up by a nut; discs and spindle were then mounted in a frame, so that they could be turned by a handle. I then made a washer of sheet zinc, whose diameter was 5-8 in. larger than the external diameter of the ebonite tube; the thickness of this zinc disc gives the thickness of the wound discs of wire; I made mine about 1-16 in. thick; but I think the thinner they are the better, the reason for which I will give presently. A small hole is drilled in the fixed brass disc near the edge of the zinc, through which to pass the wire before winding. I next made a tin vessel with a pulley, or something equivalent to a pulley, at the bottom; this was filled with melted paraffin kept warm by a gasburner (Bunsen). I now proceed to wind; I pass the wire from the reel under the pulley in the vessel last mentioned, through the hole in fixed disc, slip on the zinc washer, then the other brass disc, screw up tight, slip it into the frame, hold the wire with a piece of flannel in my left hand, and then wind as hard as you like. If the wire is well covered and not irregular or lumpy, the discs wind very regular. Having filled my discs with wire to the required diameter, I proceed as follows:—I fixed the winder (as I will now call it) in a convenient stand with the fixed disc downward, unscrewed the nut, and lifted off the loose plate, and if you are moderately skilful you will have a beautifully wound ring of wire; but take it up tenderly, lift it with care, in fact don't take it up at all—at least not yet. I then took one of my paraffined paper rings, laid it centrally on the top of the wire disc, still lying on the brass plate of the winder, then with a hot flat iron I ironed it all over until wire and paper were all melted fast together, and if properly done, without disturbing the wire in the least; now lift off the wire disc with its one paper insulator, turn it over, take out the zinc disc, which, by the by, should have its edge turned slanting or bevelled, and not square, so that it may come out without disturbing the wire; lay on another paper insulator take the flat iron and proceed as before, and the disc will be completed. With two persons—the one to wind, the other to put on the insulators—they can be made very fast.

I next coupled mine in pairs, joining them at course at the inner circle; I made a small hole in the paper and joined them, not between the two discs, but in the space between the two insulators of the same disc, twisting the ends together and

then soldering them. Before doing this I should say that I stuck the two discs (I mean copper discs) together with paraffin, and finally I poured melted paraffin into the space between the inner edge of the wire disc, and the edge of its paper insulator, a channel about a quarter of an inch or rather more in depth, smoothing it off with a hot iron. Making them in pairs this way is most convenient, as it leaves only outside ends of the wire to connect, which is no trouble. Be very careful, in joining up these couples, to make them all of the same kind—i. e. not to make some left handed and some right handed spirals. This can be easily done, if one is not careful, and it will not be discovered until the final outside of the connections of the pairs are made.

There are many advantages in this method of making the secondary in coupled discs. For example, you could make the connections with each couple by means of a row of small binding screws attached to an ebonite bar running along the top so as to be able to use any quantity or any part of the secondary; and as I said before, you cannot break it down, since when the tension between any opposite pair or number of pairs becomes greater than the insulating resistance of the intervening air, the spark will pass between the two outsides or the two insides and no harm is done. Of course this applies to all coils constructed upon this plan. I merely mention it *en passant*. Another advantage in the paraffined paper insulation is, that this material, as far as I have experienced it is unalterable.

Gutta percha, we know, is worse than useless, and coils made of this last but a very short time—nothing preserves it. I once made a large coil upon the old horizontal plan, insulated with gutta percha ribbon, varnished carefully with shellac. After some time it broke down, and upon pulling it to pieces I found that the gutta percha was all disintegrated and fell into powder.

I see no reason why the paraffined paper should not be used for the tube instead of ebonite; I intend to try it. There is great uncertainty about ebonite. It is extremely difficult to get it homogeneous or free from porosity. The tube that I used for the large one I have mentioned had to be plugged in several places, and that renders its insulation always doubtful. I wish some of your scientific readers would try it and report thereon. I think I could make it on a brass tube, well polished, with paper ribbon, soaking it as I wound it. The tube could be got out of it by melting the paraffin at its surface; it would then slip out easily.

I think, now, I have described my method quite accurately. Your readers must kindly excuse the somewhat loose and varied style in which it is told, as I find I have written sometimes in one person and sometimes in another. My excuse must be that it was written in fragments amidst the pressure of business, but I trust it is plain.

I long to say of the discs could be as thin as possible—that is, conveniently so, because when the discs are thin the quantity of wire will give a spark less longer than the distance of the thickness when placed close together. So that to get their full effect you will have to put vulcanite or other insulating washers between them. Perhaps, however, this is not so much consequence after all, providing you get the best effect with the least amount of wire.—*Macmillan's Magazine*.

The last number of the *London Telegraphic Journal* contains a long illustrated description of an apparatus for the transmission of two messages in the same direction at the same time. At the end of the article the author states that he has not succeeded in getting it to work. The *Telegraphic Journal* must be as hard up for copy as Ashley of *The Telegrapher*, who lately published an article of the same kind taken from Sabine which never worked or had the slightest chance of working.

Criticism of "The Telegrapher" Correspondents.

MONTREAL, CANADA, August 15.

To the Editor of the Telegrapher.

Having read your paper for years, and followed it from the time it so nobly stood by the telegraphers in the winter of their discontent—the strike now almost forgotten—I consider it my privilege to say a word. I am particularly pleased with the able manner in which it is conducted, and enjoy the correspondence immensely, but there are some of the correspondents who are dreadfully tiresome; others are just the contrary—sprightly and interesting. "NIHIL NAMELESS" never should have given up the ghost so easily. His letters were possessed of great literary merit, and were decidedly superior to the man who thought he vanquished him, John Sterling. From a personal acquaintance with the latter I know whereof I speak. His knowledge is superficial, and his abilities scarcely sufficient to tide him over the numerous squabbles he has got himself into by his conceit and self assurance. Such is the man whom a late correspondent characterizes as "heavy." I noticed in one of your issues of June a poem very prettily written, and greatly to the point, which seemed directed against the fast senders of Boston (I believe he is one), which he utterly ignores in his late communication to you. This poem, denouncing some one there as Filibuster the Mighty, and the whole crowd as fiascoes, seems to me too full of satire and bitter invective towards Boston men to be passed over by this would-be model correspondent and champion of female rights and liberties. I say, let him defend his own vine and fig tree and not wade so deeply into metaphysics and female suffrage with a man like Nihil, whose shoes he is not worthy to unloose.

I await the action of this high-toned champion with impatience. We are disinterested up this way, and can view the wordy battle which will be sure to follow if he tackles Tom Quad with a good deal of enjoyment, and can perhaps add fuel to the flame. Ye valient quillist from "the Land of Crooked Places," come forth. MINISTRO DE CUPERTER.

The above production is from the pen of an operator who works in the Western Union main office, in this city, and who never trod Canadian soil in his life. No gentleman would resort to such a despicable way of casting slurs upon "John Sterling," who by the way, is a Western Union operator in the Boston main office. This fresh young fellow who is employing his leisure hours by throwing mud on people who are immeasurably his superiors, is beneath contempt, and in dismissing him we will merely say "That God made him, and therefore let him pass for a man."

In Memoriam.

Mary C. Hellings, wife of Martin L. Hellings, of the I. O. T. Co., died in Key West, Fla., August 10, 1875.

Our gentle friend is missed—not from the world's restless throng, but from the quiet places of life. A sweet voice has dropped from the music of home; hands which were ever active when they worked for others are folded to rest over a heart which never throbbed unkindly; and the shadow of her grave falls long and deep over the path of those who knew and loved her.

Her life here was very beautiful, and she passed tranquilly to the nobler life which awaits the "pure in heart." We grieve that she has left us so early, but we bow in humble submission to "Our Father's will," and "Give thanks that she is safe with Him who hath the power o'er pain, sin and death."

Value the friendship of him who stands by you through the storm; swarms of insects will surround you in the sunshine.

English Telegraphy.

In *Macmillan's Magazine* recently a number of very interesting facts are brought to light which seem to be apropos now that so much has been said about the failure of the system of Government telegraphy in England.

There are seven associations for the collection of news in England, the two principal ones being the Press Association and the Central Press. The Post-office, in accordance with the provisions of the act, must transmit the news of all press associations on equal terms. The collection of news is open to all, and equal facilities for its transmission are secured to all who collect it.

The telegraph companies sent news to only 144 towns in the United Kingdom. The Post-office, acting in behalf of the press associations, sends news to 365 towns.

The difference is still more strikingly shown in the summary of retransmissions. The companies sent direct to 26 towns, the Post-office sends to 66. The companies sent one retransmission to 81 towns, the Post-office sends 224, and so on, doubling or distancing even to the fourth retransmission, which the companies never reached.

In the 144 towns to which the companies sent news there were only 306 subscribers for news. In the 365 towns to which the Post-office sends news there are 1,106 subscribers for news. Thus there is an increase of 221 in the number of towns to which news is sent, an increase in the total number of subscribers taking news, and an increase of 294 in the number of newspapers taking news.

Moreover there is a vast increase in the quantity of news transmitted. The companies used to send during the session of Parliament nearly 6,000 words of news daily; during the remainder of the year they sent about 4,000 words daily. The Post-office sends during the session of parliament, on behalf of the associations before named, 20,000 words of news daily; and during the remainder of the year it sends on their behalf nearly 15,000 words daily. The astounding increase in the transmission of news for the press may be further illustrated by the fact that the total number of words forwarded in 1873 was 214,000,000. In one night alone of that year, when an unusual number of events were reported from various parts of the country, upwards of 300,000 words of news, or about 150 columns of *The Times*, were transmitted from the Central Telegraph in London.

The increase of revenue arising from this increase of press business was, in 1873, \$50,000. The charge is twenty-five cents for 100 words, night rates, and twenty-five cents for 75 words day rates. Seven newspaper proprietors rent special wires for night work, for which the Post Office charges a uniform rate of \$2,500 per annum. This system of special wires is likely to be very much extended. It seems certain that the Post Office will obtain a large revenue from this source as soon as additional wires have been erected.

A large portion of every leading provincial journal in England now consists of news received by telegraph. One journalist states that he has seen as many as twelve columns of telegraphic news in leading provincial papers, and that he has read in a local paper at Aberdeen several columns of news which, if Aberdeen had been dependent upon London papers for its news, could not have been known there until six and thirty hours afterwards.

The Albany Quad is doing a good business. The average for one week in August was 800 messages per day. Most of this business was done with only two men at each end. Mr. W. C. Pearse thinks the wire is considerable of a "roast," and we quite agree with him.

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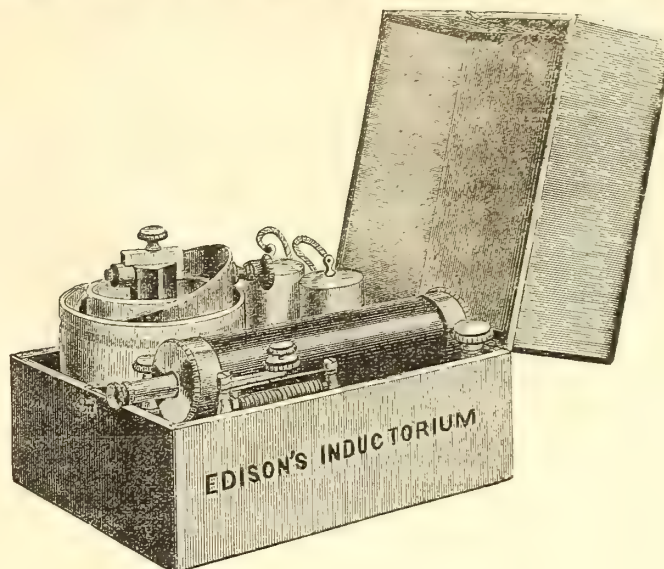
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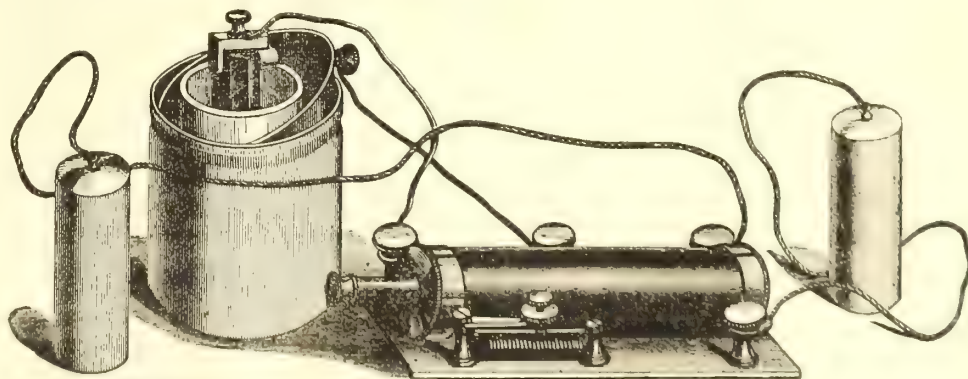


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R. D. RIGGS, Se

The second cut shows the manner of connecting the coil with the battery, and electrodes. The latter when applied to different parts of the body for medical purposes, should have moistened sponges placed in the hollow part of each. The handles, which are held by the persons applying the current, should be wrapped with dry paper to prevent its passing through his own body.

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SCIENTIFIC TELEGRAPHY.

The Publishers, in announcing the Fourth Volume of THE OPERATOR, which commences with the number for Sept. 1, 1875, desire to return thanks for the liberal support which it has hitherto received, which if it is expected and hereafter will be continued during the coming year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the Telegraphic Community, and the advancement of Electrical Science and the Telegraphic Art.

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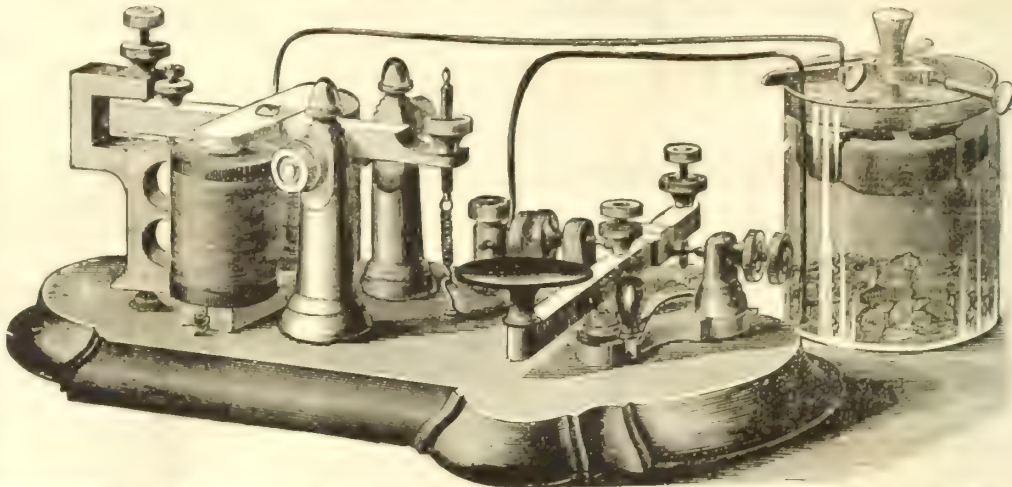
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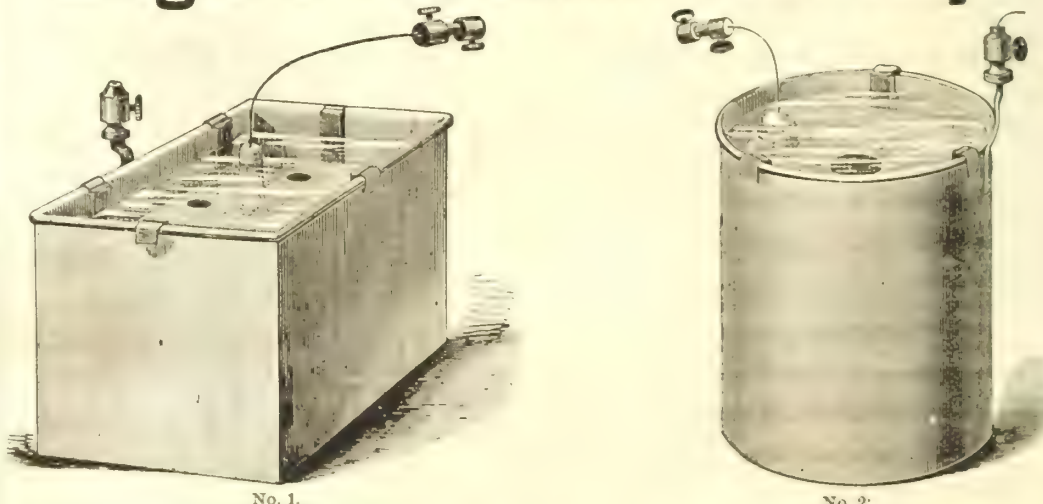
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THE OPERATOR.

The Telegraph Operators' Journal.

VOL. IV.

NEW YORK, SEPTEMBER 15, 1875.

No. 2.

THE OPERATOR.

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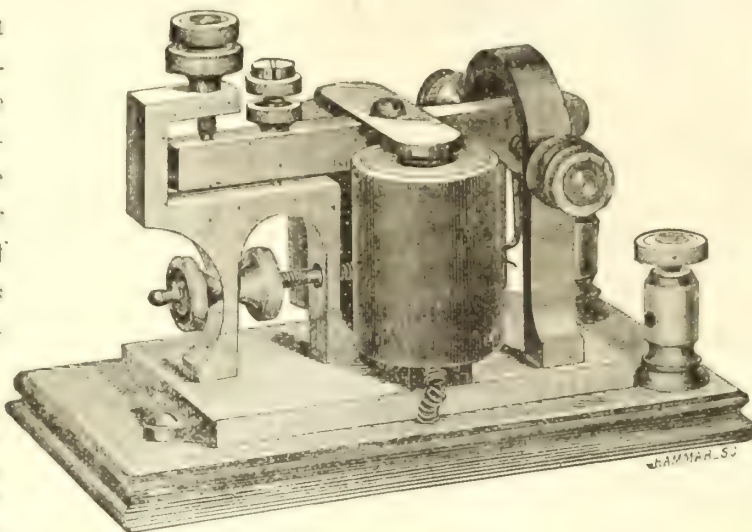
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[J. H. BUNNELL'S PATENT. July 31, 1875.]

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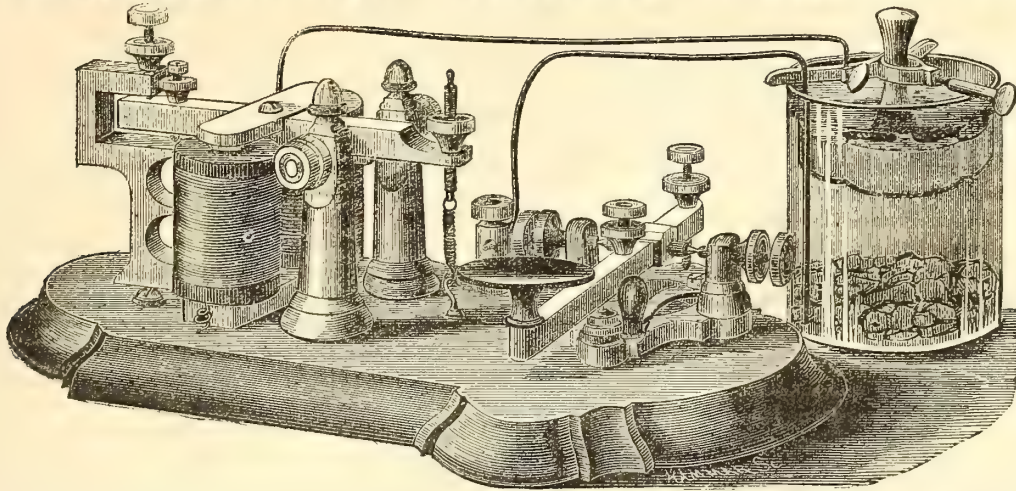
The undersigned, formerly manager of the New York house of Partrick & Carter, begs to inform the telegraphic public that, on the first of July, he will open, at No. 6 Barclay Street, with a full assortment of telegraphic apparatus, such as Burglar Alarms, Annunciators, Induction Coils, Keys, Relays, Sounders, No. 1, No. 2 Learner's Instruments of new designs, a new and splendid Sounder which has no equal, Eagles' Metallic Battery, and, in fact, everything pertaining to telegraphy, at prices lower than any other house in the trade. A share of your patronage is respectfully solicited. Orders may be addressed to

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These instruments have been greatly improved, both in their working qualities and in the style in which they are finished. Those having these latest improvements in their construction are manufactured only by Messrs. L. G. TILLOTSON & CO.

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Same Instruments, wound with finer silk-covered wires, so as to operate satisfactorily lines up to 12 miles in length, \$1 00 in addition to above prices.

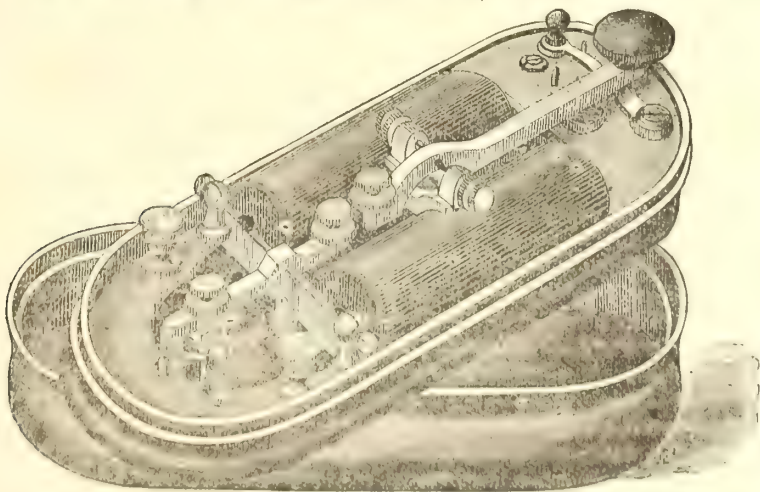
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Our Patent Pocket Relay has an improved key, large enough to be durable and for practical work. It has an independent circuit closer.

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It is pronounced the best finished and most serviceable Pocket Instrument made.

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WESTERN ELECTRIC MANUFACTURING CO.

[Written expressly for The Operator.]

THE DIDO'S LAST SAIL.

BY AN EX OPERATOR.

I was running the office in the little village of A. during the winter and spring of 184-, in connection with other business. In those days two wires carried all the business between New York and Albany, and as our station was an insignificant one at best, I found myself with much leisure time upon my hands. Besides, my wife had become tolerably proficient with the key, and I could leave the office in her charge without detriment to the interests of the company.

It was one of those bright, mild mornings in March that drop-down upon this Northern climate occasionally, just to give us a foretaste of the coming Spring. The sun shone gloriously, and the air was as soft and balmy, almost, as June. There had been heavy snows during the winter, and the mountains and hills of the upper Hudson were still white with the fleecy covering, glistening in the sunshine like burnished silver; and, although for a week past there had been alternations of warm days and cold days, with an occasional light fall of rain, the ice in the river was to all appearances as firm as at any time during the Winter.

Now, ice-boating had become almost a passion with me, and as I looked out that morning upon the smooth surface of ice that stretched away for miles, and shimmered like an immense mirror in the sun, reflecting the trees that bordered the river as though they were the lithe forms of pretty girls dressing for a party, I thought to myself that this might be my last opportunity for the season for a scud before the breeze on my swift-running boat.

The wind was blowing fresh from the south-east, and there was a clear run of I knew not how many miles of perfectly smooth ice that stretched away and lost itself beyond the line of my vision.

The village of C. lay some thirty miles down the river, and as this fact occurred to me I immediately resolved to make it the objective point of my day's sport. With such a breeze, I knew that I could easily do the distance in an hour. I had done it many a time before, and the idea of danger from the breaking up of the ice scarcely entered into my consideration of the question. Warm days, even in mid-Winter, were no very rare occurrence, and it was always the last of March or first of April before there came a final break up of the ice. Besides, if there should be any indication of a change foreboding such an event, it would be an easy matter to turn about and be snugly home before the ice should finally give way. At least, so I reasoned; if I reasoned at all, and my mind was almost instantly made up to make the venture.

Accordingly I made immediate preparations for my departure, and started, with the tiller under my arm, and the sails, rolled into a compact bundle on my shoulder, for the little cove where my boat was moored.

Before reaching the river, however, I observed that the wind was freshening somewhat, and my boat would really carry two. I thought it would be wisdom to fix a friend to accompany me. It would certainly make the sail more enjoyable, and in case the wind should increase to a gale, I should probably need him for ballast. The ice boat is a peculiar institution and should always be loaded according to the wind. If too light, it is very apt to capsize, and a broken mast is the usual result of such an occurrence.

Nat G. was a good fellow, and Nat and I had been chums from boyhood, and furthermore, Nat was about as fond of a skin over the frozen river on two

runners and a rudder as I was. So I stopped on my way down, and finding my friend at home, with nothing in particular to occupy his time for the day, I invited him to accompany me on my proposed trip to C.

Nat did not "jump" at the invitation as I had anticipated he would. On the contrary, he shook his head doubtfully, looked at the sky suspiciously, and then remarked, in a way that was peculiarly his own, that while he would like the sail, he did not think it entirely safe.

"Safe!" I echoed. "why, my boy, the ice is as firm as it has been at any time during the Winter, and there is no more danger of a break up now than there was in January."

"Well, I don't know that there is; but one or two warm days after such heavy showers as we have had during the past week, and all the snow on the hills melting and running into the river, is apt to soften it some, I reckon. You and I have both seen just as solid looking ice as that is sailing past here in cakes that we wouldn't like to be afloat on."

"Now, look here, Nat," I replied, "I have made up my mind that I am going down to C. to day on the ice, and you can't frighten me out of it. You won't have many more chances for a sail this Winter, and if you want a jolly good time you had better come with me. This south-east wind will carry us down in an hour, and that will give us plenty of time to "do" the village so that we can make an early start and be home in good time for supper. Come, will you go?"

Nat made no immediate reply, but again shook his head as though he still doubted the prudence of the undertaking; while I, somewhat impatient, and considerably nettled at his hesitation, turned on my heel and once more started for the river.

I soon reached the cove, and at once proceeded to bend the sails and step the mast. Before I had more than half finished, however, my friend made his appearance on the shore, and with a somewhat doleful expression of countenance, said: "Look here, old man, my opinion is that before you get back from C. you will wish you hadn't started; but if you are determined to make the crazy venture, I'm darned if I'm going to let you go alone. I haven't got a wife and baby to mourn for me if I don't come back, and if the worst should happen, I may possibly be of some service to you."

"Bah!" I replied; "you croak like an owl, and look as sombre as an undertaker. Don't put yourself in peril for me; I'm going out for pleasure—not to a funeral."

"Well, funeral or no funeral, I'm going with you if you are determined; but if there aint clear water in the river between here and C. before midnight you can laugh at me to-morrow. Just mark that, will you."

Now, I will not deny that my friend's earnestness had somewhat impressed me, but I was obstinate, and would not yield. So I went on with my preparations, and when all else was in readiness, shipped my tiller, and told him if he was going to hop on board.

It was now about half past ten, and there had been no perceptible change in the weather since early morning, except the slight increase in the wind before noticed, and an occasional white cloud no bigger than your hand ("weather breeders," Nat said) that scudded across the deep blue of the sky.

Nat took his position to windward, while I pushed the stern of the boat around so as to bring her before the wind. As she came slowly up, her sails caught the stiff breeze, and springing to my place aft, the "Dido" darted away like a race horse.

If the reader has never sailed on an ice boat, he can have but a feeble idea of the exhilarating effects of this most delightful of Winter sports, and if he

has never stood up on a frozen river and seen one of them dash by him, he cannot possibly realize the speed with which they are whirled away before the wind. In this instance, the boat upon which we were sailing was considered the champion of the upper Hudson, and I am not exaggerating in the least, when I say that I have frequently, in places where the Hudson River Railroad runs on a line with the river shore, raced with a lightning express train that was going forty miles an hour, and beaten it almost out of sight.

We cleared the cove in a few moments, and emerging into the broad, clear expanse of ice that covered the river for many miles ahead, we were soon stretching away in long tacks for C.

Yes, it *was* glorious!

The crisp ice flew in jets from our sharp runners as we dashed along, and my spirits soon rallied from the temporary depression into which they had been thrown by Nat's sombre predictions. Danger! Why, danger was pleasure when encountered under such an influence as this; and I laughed aloud at the long face that met my gaze when I turned my eyes to my friend. And it was not long before he too rallied from his gloom. Nat was a true sportsman, and there was not a drop of coward's blood in his veins, as may be readily conjectured from his so promptly resolving to share the apprehended perils of my trip; and now that the little "Dido" was so gallantly flinging the sprays of ice behind her, he too became imbued with the exhilarating influence, and brightened up like a mountain-top in the morning sunshine. I could see this in his face, and in the sparkle of his glorious eyes, which fairly blazed with the excitement of the moment.

There was no opportunity to express our delight to each other in words, for the speed at which we were going absolutely precluded all possibility of conversation; and, indeed, there was no necessity for it to add to the enjoyment of the occasion, the perfection of which can only be realized by those who have experienced it.

And so the minutes and the miles flew by together as we made our stretches in long tacks from one side of the river to the other, our speed seeming every moment to increase as the wind slightly freshened.

Intervening villages and hamlets were passed with a rapidity that promised to bring us to our destination in good time for dinner, and my spirits continued to rise accordingly.

To be sure, I had noticed that the clouds were getting somewhat thicker, and that the wind had veered a trifle more toward the eastward since starting; but these facts excited no apprehensions in my mind, and the delights of the moment were too great to allow themselves to be shadowed by even a thought of danger.

And we were not disappointed in our expectation of reaching C. in ample time for dinner; and in fact were there, and had our sails furled and the boat snugly taken care of half an hour before the village clock pealed forth the hour of noon.

So Nat and myself sauntered leisurely through the one street of the village toward the hotel, and after reaching it, loitered in the bar room chatting with a mutual friend until the bell rang that summoned us to the not unwelcome noonday meal.

I had one weakness in those days which I think I have since outgrown. While not particularly addicted to the use of intoxicating beverages, it was difficult for me to resist the urgent solicitation of friends to take a social glass, and when the first was swallowed, subsequent invitations needed to be less and less pressing. So, before we went in to dinner, Nat and myself had each taken "something for the stomach's sake" in the shape of a couple of "hot whiskies."

The dinner passed off pleasantly, though we lin-

gered over it longer, probably, than we should have done had it not been for the influence of the beverage we had taken, which, in connection with our exhilarating sail, had stimulated our appetites and imparted zest to the occasion. Altogether, it was a most agreeable dinner, and, were it not for subsequent events, I should remember it with feelings of the most unalloyed pleasure.

Finished at length, we returned to the bar room, in most sociable humor, and in proper condition to permit of being easily beguiled into additional indulgence. We both had many friends in C., and it seemed as though our arrival had been heralded, as they kept dropping in, and each insisting that we must take "just one more;" and, to be brief, the afternoon was slipping rapidly away, and both Nat and myself were fast becoming oblivious both of the passage of time and of the necessity for clear heads and steady hands for our return trip.

I confess that I was myself far gone in inebriety, and to this day can scarcely realize what influence it was that at length aroused me to myself. I think there must have flashed across me a vision of a little woman with an anxious face who would be waiting for me at home and whose heart was sorely troubled at my not coming.

At all events, I remember suddenly setting down my glass and looking at my watch, and being startled at finding that it was almost five o'clock.

I spoke hurriedly to Nat, and though, like myself, he had permitted himself to be tempted into indulgence, and thus rendered unmindful of the passage of time, it took but a word to restore him to a consciousness of the necessity for speedy action on our part.

Therefore, bidding our friends a hasty adieu, we were soon hurrying, but with somewhat unsteady steps, to the place where we had left our boat.

On the way down, however, I stepped into the telegraph office, and after hurriedly exchanging courtesies with the operator in charge, took the key, and briefly announced to my wife that I would be home in an hour and a half, and after receiving her "O. K." in reply, again started for the boat.

The sun had already sunk behind the western hills, and intoxicated though I was, I could not fail to notice the change in the weather since our arrival. There was a damp, sticky feeling in the atmosphere, and the sky was almost completely overcast with heavy grey clouds, while the wind surged and moaned through the almost deserted street in a manner that clearly foreboded the near approach of a storm.

I did not like the looks of things a bit, and though I did not speak my fears, I was rapidly working off the effects of the liquor I had drank, under the influence of them.

I could also see that my friend was speedily recovering, and in fact by the time we had reached the boat, he was almost if not quite himself again.

"Look here, old man," (Nat always addressed me as "old man" when he was very much in earnest, though he was several years my senior,) "Look here, old man," he said, as we sprang on to the ice from the little pier in the shadow of which the "Dido" was lying, "you and I had better not make this venture to-night. This storm will surely be on us in less than an hour, and it may burst at any moment. If the ice *should* give way before we get home, God help us!"

There was a solemn earnestness in my friend's voice that impressed me in spite of the lingering effects of my own indulgence; but there was in my imagination the picture of my anxious wife and little one at home, now doubly vivid for the remorse which filled my heart for my own indiscretion, and I felt that I could not protract their anguish by remaining away through the night. So I tried to

allay his fears as well as my own by an assurance that we would be home before the storm could possibly break, and that there was in reality very little danger.

We had, in the meantime, gone on with our preparations. The sails had been shaken out, and everything made taught and snug for the storm should it overtake us. Several persons had gathered on the ice to witness our departure; and it was the general impression that it was a foolhardy venture. Indeed, an old fisherman had unhesitatingly predicted that the ice would not last an hour unless the storm should be delayed.

This prediction, however, had no further effect upon me than to hurry my preparations. I was determined in my purpose to return that night, or, at all events, to make the attempt.

The wind was now blowing almost a gale from the southeast, and as the last rope was tightened and the tiller shipped, Nat and I sprang to our positions, and the little "Dido" bounded away before it as though she appreciated the emergency and was determined to do her utmost.

And oh! how she *did* put the miles behind her!

Our course was a little west of north, and with the sheet close hauled the wind was directly on our quarter, so that it required our united weights to windward to keep her down to the ice, and even then she occasionally gave a lurch that threatened to roll us both over the side. I kept her so as long as I deemed it at all safe, but the increasing force of the wind at last rendered it necessary to ease her off a trifle, though I did it reluctantly, for every inch gained was of the utmost importance.

Half the distance, or about fifteen miles, had been made in almost as many minutes, when the darkness came upon us—not "as a feather is wafted downward from an eagle in its flight," but suddenly, as if a blanket had been drawn over the heavens, shutting out every object, and leaving only the faintest outline of the shore visible by which to slope our course.

Then there was an instant's lull in the wind, as if it was gathering itself for a more mighty effort,—then a hoarse sighing among the leafless trees that covered the hills on the east bank of the river—then a sudden gust that swept over us like a hurricane, and finally the rain, descending in a perfect torrent!

Fortunately for us, the river was narrow at this point, and the banks unusually high, so that the "Dido" scarcely felt the increase in the force of the wind; otherwise she must inevitably have been capsized and blown away before we could have recovered ourselves. As it was, she kept nobly to her work, and though I found it necessary once more to ease off on the main sheet when we emerged into a broader expanse of ice, she was still tearing along at a speed that was almost fearful.

Lights now began to flicker in the houses along the shore, and these were a great help to me in steering, as the darkness and blinding rain together had for a moment rendered the shore line entirely undiscernable, and the boat had been running quite at random except so far as I could guide her by the direction of the wind.

For perhaps five minutes (it could scarcely have been longer) from the time the storm struck us, we held our way, and I had begun to hope that the worst was over and our goal almost reached, when there was a sudden roar far up the river that set the blood curdling in my veins. It was louder, deeper, more prolonged, and more terrible in its tones than any peal of thunder I had ever heard, and I knew instantly that it could have but one significance—the ice above had given way, and was moving down upon us with a power that would grind into atoms an opposing force less firmly anchored than the rock bound hills themselves.

I looked at Nat as his brief "God help us!" flashed through my mind, and could just see the outline of his form as he raised himself into a listening posture. But there was no time for consultation, and no opportunity if I had desired it. Nor was it a moment for the slightest hesitation. The intense strain upon my system for the past half hour had entirely eradicated the effects of my unusual potations, and my mind was as clear as crystal. I took in the situation at a glance.

To the left, at an angle of about forty-five degrees from the course I was then steering, a faint light was glimmering through the otherwise impenetrable darkness. I knew about where that light ought to be located, and raising my voice to its highest pitch, I shouted to Nat that the "Dido" was going ashore at that point, and that he must look out for himself when she struck!

This was the first sentence that had passed between us since we started, and his cheery response of "All right, old man!" came back to me almost like a benediction. The time, to be sure, had been brief, but in the half hour that had elapsed, since our start from C., I had lived, as it seemed to me then, the longest part of my life. It had been worse than a *hasheesh* dream!

In the meantime, my tiller had been shifted so as to put the light dead ahead. It was not necessary to "jibe" in this movement, but I eased off a little more on the main sheet so as to give her the full force of the wind, which the change of course had now brought more astern.

The sounds of the breaking ice above were every moment becoming more and more distinct and terrible, and it was evident that it could not be many minutes before the whole river would be a mass of surging, grinding *debris* of what had been but a short time before a perfectly secure bridge for many miles in extent.

We were now rapidly nearing the shore, and it was necessary that both Nat and myself should be on the alert, for it was pretty certain that we would have to flounder through a mass of broken ice before we could reach the land, and that wet jackets for both of us were inevitable.

If we had had daylight to guide us, this would have been attended with comparatively little danger, but in this inky darkness the risk of scrambling among the broken cakes that usually line the shore for twenty or thirty feet below the low water line, caused by the rising and falling of the tide, was any thing but trifling.

Still, as circumstances were, there was no alternative, for it seemed that the rushing mass of broken ice from above was now almost upon us, and I determined that I would keep the boat head on until she struck against the rocks or brought up among the broken ice floating near shore. I had not noticed the state of the tide when we started, and consequently could not now tell whether it was high or low water although it was more than probable that the heavy rain had increased the volume of water in the river very considerably, and would almost certainly render a cold bath necessary.

On we sped with almost lightning speed, when suddenly Nat sprang to his feet, holding on to the shrouds, and shouted, "Look out for yourself, old man!" and the next instant the boat crashed among the broken ice, and I felt the chill waters enveloping me.

I had been as much as possible on the alert, and as I felt the frail support of the boat sinking amid the broken ice, I rolled over the side, and for a moment was entirely submerged. Struggling bravely, however, I soon came to the surface, and struck out as well as I was able for the shore, which I was now enabled to distinguish by the light before alluded to, and for which the boat had been directly

pointed, and which, fortunately, had been the first thing that met my sight as my head emerged from the water. To swim, however, was impossible, but I managed in some manner to flounder over and through the broken ice, until, battered and bruised in every part of my body, I finally sank utterly exhausted and unconscious upon the shore.

Nat had safely got there before me. Being on his feet when the boat first struck, he had watched his chances and been enabled to reach the shore with comparative ease, and with the help of the fisherman in whose cot the light was burning that had guided us to the shore, and whose aid he had immediately summoned, I was soon restored to consciousness and made comfortable by the side of a roaring fire.

It was daylight next morning when we started for home, and as we emerged from the fisherman's cot we saw the river stretching away in a broad expanse of angry water, but with only here and there a small cake of ice floating like some forlorn wreck upon its bosom.

That was the "Dido's" last sail, for she had been ground to powder amid the crash of ice that whirled by almost at the instant we reached the shore.

Anomalous Behavior of Selenium.

It has been lately observed that the electrical resistance of selenium is greater in the light than in the dark. It was at first thought possible that this increase of resistance might be due to heat admitted with the light, but Prof. W. G. Adams, in his paper read before the Royal Society, June 17th, 1875, has shown that this is not the case, but that the phenomena is a purely optical one.

The writer of this letter has to-day tried an experiment with a selenium bar belonging to the Cavendish Laboratory. Its length is 50 mm., breadth 8 mm., thickness about 1 mm.; platinum wires are soldered to its ends, and it has a hard metallic surface. Its electrical resistance is enormous. In the dark it is just over 100 megohms (100,000,000 B. A. U.). When, however, the light of the paraffin lamp of the galvanometer was allowed to fall on it from the distance of about a foot, the resistance decreased between 20 and 30 per cent. The experiment was repeated many times, with current sent sometimes one way, sometimes another, and with different sides and edges of the bar turned to the light, but always with the same result, namely, that the effect of letting in the light was to largely decrease the resistance.

A second set of experiments were made with a selenium medal struck by Berzelius soon after the discovery of the metal in 1818, and presented by him to Mr. Deek, by whose son, Mr. Deek of Cambridge, it was kindly lent for the experiment. This medal was of oval shape, about 40 millims. long by 30 broad. Owing to the difference of form between the two specimens, their specific resistances could not be accurately compared; that of the medal was, however, not more than about 1/10 of that of the bar. The medal was exactly like black lead both to touch and sight, and quite different in appearance to the bar. The resistance of the medal was, under the same conditions, about 1/10 of that of the bar, and could be detected.

These experiments seem to show that the physical form of the metal has a great deal to do with its behavior when carrying an electric current and exposed to light.

J. L. H. GARDNER.
Cavendish Laboratory, Cambridge, June 22, 1875.
Nature.

Adams Express Company have purchased the Nathan mansion in this city, and the W. & A. O. Company are about establishing an office there. It will be remembered that this house was the scene of one of the most brutal and mysterious murders of the times.

The Operator.

PUBLISHED BY

WILLIAMS & BENNETT.

Volume IV. - - - Whole No. 39.

NEW YORK, SEPTEMBER 15, 1875.

TO OPERATORS.

THE OPERATOR has now the largest circulation of any telegraph paper published in the United States, but as we are desirous of largely increasing it, we offer as an additional inducement to subscribe **fifty handsome visiting or address cards** to each new subscriber for the year. The same offer applies to renewals and clubs. The cost of these cards would nearly equal the price of a year's subscription, if ordered separately. Subscriptions should in all cases be accompanied by the cash or a Post Office order.

THE GROWTH OF TELEGRAPHY.

Many of our readers who are not yet forty can remember the first putting up of telegraph poles throughout the United States, and have a lively memory of the times when the railroad and stage coach brought the first intelligence of the elections, failures in business, and general commercial intelligence. Boston might have burned while John Quincy Adams was President, and the fact not be known in Charleston, S. C., for two weeks. How different now! Chicago burns, and the owner of property there who may be temporarily sojourning in New York, literally notes the progress of the flames from the Fifth Avenue or St. Nicholas, and can tell almost at the instant when his own home or place of business is endangered.

And yet the triumphs of telegraphy are scarcely begun. The familiar demon that the magicians of old were supposed to have at their elbows, will soon be at the beck and call of every man. The progress of the art has been so great within the past few years that we can hope for a utility far exceeding that of the present, and it will be safe to predict for the future electrical triumphs to which those of the past shall seem as naught.

We have seen advance in the house-to-house system of telegraphy, as practiced in the large cities, by which messengers can be summoned, fires announced, and the police placed at the disposal of ladies and invalids. The cost of wires is so slight, however, and batteries are so much less costly than they once were, that we may hope to see every house throughout the United States above the level of a shanty provided with these sure defenders against crime and the assaults of organized bands of robbers. It is not to be denied that the exposure of property to the assaults of those who war against it is the great danger of to-day. The tramp, the midnight burglar, and the incendiary, all are checked by a messenger whose celerity outstrips that of sound.

We look, too, for a domestic telegraph service which shall supplant the bell system. We have already attained this partly, but it is destined to be much more widely extended.

The Telegraphers' Ball.

There will be a meeting of operators and clerks on Monday evening next, the 20th inst., in the auditor's office, fifth floor, for the purpose of fixing a date and opening a list for subscribers; also, to make arrangements for a subsequent meeting for the election of officers, and for the purpose of securing a hall. All telegraphers desiring to par-

ticipate are earnestly invited to be present, as it is very desirable to get to work at once.

"S. PEX," our Chicago correspondent, has had an addition to his family "in the shape of a girl baby." This accounts for the non-appearance of our Chicago letter in this issue.

Will Charles E. Watts, formerly of W. U. Tel. Co., Detroit, Mich., please send his present address to this office?

THE FINANCIAL CRISIS.

Being a Leaf from the Chronicles of The Knights of the Table Round.

It was midnight. The steady stream of customers which had poured in since early was now reduced to a few stragglers, who ever and anon tried the closed doors with a fierce shake and turned reluctantly away. Within the sacred vestibule, known to the fraternity as "S. G." and to the outside world as the telegraph office on the corner, the whole of our little band were gathered, and the last remaining gas jet threw its dim light on a row of tired, anxious faces gazing blankly at each other, and each one vainly endeavoring to gather from the expression on its neighbor, some ray of hope out of the general gloom which overshadowed them.

Chief Chase was perched upon the cashier's stool twisting a fresh cigarette, with a far away look in his eyes which boded little good to the unhappy subject of his next communication to THE OPERATOR. Near by sat Hinman, the giant, trying to make a trial balance of his accounts by the aid of some soiled vouchers and a few washing bills. Patrick and Hill had laid aside their books; the former sat gazing into vacancy, the latter gazing into a can of congress water which the boys had brought up from the spring, and which he now and then raised to his lips, but always to part from with a peculiar look of disgust, such as might have graced the rubicon features of Friar Tuck, while drinking from the well of St. Dunstan.

The man from the States had yielded to the combined effects of a hotel dinner and one of Wheelock's long stories, and was fast asleep in his chair. On one side of him sat Wheelock, who, with a morning shave in view, was trying to solve the problem of making two nickels and three pennies count fifteen, and occasionally whispering a few words into the ear of his unconscious victim. On the other side was irrepressible Dave busily engaged in fastening on to the coat of the drowsy "U. S." a placard bearing the inscription "THIS MAN WAS TALKED TO DEATH."

Williams was chewing the end of his cane and the bitter cud of fancy, and the granger sat looking mildly at the toe of his boot, saying little, but like the balance of the party, keeping up a terrible thinking.

The powers that be had decreed that no extra pay should be allowed this season, and as their decrees are like the law of the Medes and Persians, which altereth not, we were forced to put up with the inevitable. But there was no lack of hard work and late hours, and the boys came round in the morning without the usual shinplaster and with only red eyes to show for their night's labor. The high prices demanded for white neckties, beer, cigars and other necessities of life, told heavily upon the salaries, and on this occasion

when a general show of purses had failed to produce fifty cents, the amount required to purchase a gallon of lager, a feeling of intense disgust was prevalent among the gallant Knights of the Round Table.

All felt the solemnity of the moment, but none dared give utterance to their feelings in words. The silence was becoming oppressive, when Nuf Ced, shooting his cigarette and mounting upon the quad, thus addressed them:

"Ye call me chief, and ye do well to call him chief who for two long seasons has borne the brunt and fury of this fearful roast. If there be one among you who has toiled harder, worked later or come out *thinner* let him stand forth. But I was not always thus—a savage chieftain of still more savage plucks. There was a time when like our mutual friend Hill we *all* had sinecures, working but fifteen hours every day, and, when the task was o'er, we wandered forth like elfin spirits on All Hallow Eve, to make night hideous. But now, when from yon grim and lofty spire the curfew sends its warning notes abroad to mark the evening hour; when fashion jostles fashion in the streets' and youth and beauty throng our public walks, instead of donning law hammer coats and rakish hats to fright the eyes of timid maidens, we caper nimbly to the office, and wrestle with the press fiends till they cry, hold enough!"

The thrilling words of Ced struck a responsive chord in the bosom of every knight present. The office rang with loud applause, in the midst of which the committee proceeded to organize an indignation meeting, and Sir Kt. Patrick was called upon to preside. The cashier assumed the responsible position with his usual promptness and energy, and, after thanking the company for the honor conferred upon him, briefly announced that remarks from any of the knights present upon the subject before the meeting, would be in order.

Goliath of Gath was the first who accepted this invitation. He said that he had heard the words of the Sachem, and his ears were open; but he had always supposed that a pow-wows should commence with a smoke, and, in order to carry out his part of the programme, he would like to borrow a pipeful of tobacco from some one of the members present. At this juncture the Chair ruled his remarks out of order, and the Granger was heard no more.

Next rose the Bonanza. All eyes were turned upon this Titan of the West, as he opened slowly from his chair, and smoothing the ample front of his white vest, gazed complacently around upon the assembly. The colossus began by saying that there had been considerable talk made of late in reference to fat men. For his part he was thankful that Nature had given him a form rotund in preference to that of a skeleton. Indeed, as his eye fell upon some of the knights present, he could not help comparing himself to Falstaff mustering his recruits. He considered the heavy members an ornament to the round table, and called upon his friend from the States to verify the assertion.

"Ask my next neighbor," groaned "U. S."

"He, I answer you for better or for worse."

For none likes more to hear himself converse."

The Bonanza continuing said that the knights were themselves much to blame for the troubles which had overtaken them. That there was no reason why an operator could not be respectable if he was so disposed, although he well knew that this was the exception and not the rule. (Great excitement.) There are certain expensive vices

such as betting on horse racing and buying pools, and though he should not call any names, yet in his mind's eye—

Sir Kt. Williams. — "Mr. Chairman, I rise to a point of order."

Loud cries of "sit down," "go in Porthos, take your coat off," "put him out," &c., &c., followed this interruption, when the Chair ruled that his remarks were irrelevant to the subject before the House, and the giant resumed his seat.

Sir Kt. Williams was the next speaker, and indicating with his finger the portly figure of the Bonanza, and the slumbering form of the man from the States, he asked his hearers to look on this picture and then on that. Referring to the words of the last speaker, he said that a man who would make a boaeconstrictor of himself, and then come here and sleep through such an exciting moment as the present, might be considered an ornamental but certainly not a useful member of the circle. He closed his remarks with the following quotation:

"Let me have men about me that are fat; sleek headed in n, men who sleep o'er nights; you Hinman has a lean and hungry look, he eats too much; such men are dangerous and ne'er will rest content while they behold a greater (eater) than themselves."

The man from the States was next called upon, and having, through the exertions of Wheelock and Dave, been partially roused from his apathy, he was assisted upon his feet. But with the happy faculty for which he is noted, of shifting the responsibility on other shoulders than his own, "U. S." turned upon Hill, and in language borrowed for the occasion and slightly altered to suit the case in hand, warmly urged him to mount the rostrum:

"Sir Smug, he cries, (for lowest at the board, Just made fifth auditor by his patron Lord, His shoulders showing forth by many a string How much his feelings suffered, sat Sir Smug.) Your office is to winnow false from true.

Come tracer, drink, and tell us what think you."

Thus urged, the gallant knight of the ink-horn came forward. He said, when instead of the brown bowl, a row of hob-nail shoes ornamented the round table, it was high time something should be done. He thought a committee should be appointed to assassinate the President and Board of Directors. He moved an immediate adjournment to the Germania Gardens as a safe place to mature the plot.

As the "Rooster" paused and stood with one arm extended and the other thrust beneath his coat tails, it needed but the spectacles alone to complete the likeness of the immortal Samuel Pickwick.

When the thunders of applause had in a measure subsided, loud calls for Garrulous George were heard, and with a smile upon his features, Sir Kt. Wheelock took the stand. He said that we were all in the grasp of a powerful monopoly. He did not refer to the Western Union Telegraph Company, but to the washerwomen's league, which had raised the price of washing to a dollar and ten cents per dozen. He hoped the circle would take measures to protect themselves against this new outrage. Being sharply called to order by the Chairman for this digression from the subject, W. began a short sketch of his adventures in New York and elsewhere, and as he proceeded with his remarks the loud snoring which emanated from the left centre was promptly echoed back by the

extreme right, giving proofs of his remarkable sway over an audience. Just as he had arrived at that point in his narrative which commences with "When I was at Newport," a loud explosion was heard in the back office, the door of which, torn from its hinges, was hurled into the apartment; the manly form of the manager followed, alighting on the duplex with terrific force and extinguishing the gas. Under the impression that the Quad had exploded, a general rush was made for the street door, and each one struck for his country and his home.

Although Dave is somewhat reticent upon the subject, it is generally supposed that he better than any one else knows who it was that loaded the manager's pipe.

CHOPS.

PERSONAL.

Mr. F. P. Lowrey, from Washington, D. C., is a member of our night force.

Mr. W. H. Auston has been appointed operator in Cheyenne W. U. office vice E. W. Emery, resigned.

John Boyle, of the W. U. office, Hartford, Ct., is in town.

Messrs. J. Candett Evans is the latest for J. C. and E. T. Evans. Chauncey Raymond will tell you all about it.

W. J. McLaughlin, one of the aristocrats, has returned from Long Branch, and at present is "akirmishing" in the main office here.

Mr. Eddy states that the reason he has no regular wire is because eddies will go round in spite of everything. This is original.

Mr. Albert Ruddock is with the Philadelphia and Reading R. R. Co., at 13th and Callowhill streets, Philadelphia, Pa. Al is an old Bankers and Brokers man.

George House, manager of Cohoes, N. Y., office, Mr. Roberts, of Fort Manitoba office, and Miss Lester, formerly of Willimantic, Ct., W. U. office, were among our recent visitors.

Several of the beautiful songs and dances to be performed this season by Delehanty & Cummings, (formerly Delehanty & Hengle) are from the pen of J. J. McDermott of '197."

Messrs. Thomas H. Reilly, M. J. P. Kavanagh and George E. Hinman have returned from Saratoga, where they have been during the past summer, and resumed duty here.

Among the list of foreign subscribers to THE OPERATOR, we notice the name of Wm. Rahr, formerly of Manitowoc, Wis. He is now at Chienurgische Clinic, Bonn, Europe.

David B. Mitchell is with us again. When we say that he is a good operator and as square as an as ever stepped in shoe leather, we but echo the sentiment of the office.

Mr. W. J. Caughey, late manager C. & F. R. R. office, Chicago, was in town August 20, and sailed for Europe the following day, for a year's sojourn abroad on account of delicate health.

Mr. J. S. Young, late of Montreal, Que. is settling at 812 6th avenue office. He is longer in the business than any man in New York, being six feet, four inches.

J. F. Cowan, drill inspector of the A. D. T. Co., has accepted the captaincy of Co. I, of the Twelfth Regiment, National Guards State New York. Mr. Cowan is a thorough military man, and will fill the position with credit to the organization.

Ed. Schermerhorn is subbing at Cheyenne during the absence of Mr. James H. Halley, who has gone on a visit to Washington, D. C., for a few weeks.

"Skin" expects to wind his way toward the setting sun on Mr. H.'s return to see if he can't find a big "bonanza."

The funeral of Dr. Bradley, of Jersey City, the well known electrician, was largely attended from his late residence in Jersey avenue on the 9th inst. Frank L. Pope, of Mr. Prescott's office, and George K. Walcott, of the main operating room, represented the Western Union.

After a short but eventful career Capt. Eitemiller has folded his tent and silently stolen away.

Affliction sore

Two weeks he bore,

In Harlem and Hoboken,

For by the trip,

He lost his grip,

And left N. Y. heart broken.

Gone to McConnellsburg, Pa.

W. E. Kettles, of the Western Union office, Boston, is out in a challenge address, more particularly to C. D. Stanford of the same office, but open to any Morse operator in the world, to send 25,000 words of solid matter at the coming Centennial Exhibition. We are under the impression that M. J. Doran of the Atlantic Cable wire at Sydney, Cape Breton, could render a very good account of himself in a contest with Mr. Kettles.

CHANGES.

N. C. Schlemmer has been transferred from Mead, Ia., to Ogden, same state.

Miss Annie L. Davidson has been transferred from Rocky Point, Ct., to Lyme, Ct.

C. E. Tapley has been appointed manager W. U. office 1000 6th avenue.

W. A. Seymour has been appointed operator at 516 Broadway, W. U. office.

Mr. E. J. Hamilton has been transferred from the Butter and Cheese Exchange office to the new W. U. office, corner of 23d. street and 8th. avenue.

Mr. H. McGeorg has resigned his position as manager of 3d. 41 and 44th districts A. D. T. Co., this city. He leaves the business for the present. As yet no one has been appointed to fill the vacancy. Assistant Superintendent Farrington acting manager until an appointment is made.

DOMESTIC NOTES.

A message was sent to London and an answer received in one minute and a half by the new cable.

Why is the W. U. much like their night business? Because it's half late.

The A. D. T. Co. has opened an office in Harlem. Assistant manager W. H. Mantress of 1st district has been transferred to that office.

It read "The ship shipped today. Just ready to leave ship." But Mrs. M. "remembered" "The ship shipped today. Just ready to leave ship."

Something new every day. T. A. Edison has invented his "Antiquities pencil" which we will describe in a future number.

Recently Theodore Tilton sent 72 messages to Philadelphia in 40 minutes on the combination system.

Our offer of fifty cards for a yearly subscription seems to have taken great hold. We removed no less than fifty order slips last week. Keep it up boys, and we venture to say that a greater card can't be gotten up.

One of our ladies, on being spoken to in a rather sharp manner on one of the city wires said, "You need not take my head off." "I would have no use for it," was the cool reply. The usual etiquette was then gone through. "Thanks, etc."

CORRESPONDENCE.

"BUSTED."

The Season of '75.

SARATOGA, Sept. 13, 1875.

To the Editor of The Operator:

Have you ever been out to the circus ground after the canvas has been struck, the stakes pulled up, wagons packed and the long train of perambulating bohemians has taken up its line of march for the next scene of active operations? The spectacle of the deserted saw-dust ring, bestrewn with empty tomato-cans and debris of every description, is truly mournful in the extreme; being so great a contrast to that of tinselled grandeur which erst while shone under the glare of the smoking lamps, which shed light and oil on the mimic pageant below! There is just one sight more mournful and harrowing to the eye of the beholder—Saratoga at the close of the season!—and if you want to see *that*, just come up and gaze, for now is the time!

Deserted hotels, sans music, sans guests, sans hops and balls, sans everything. Gaze out on the likewise deserted streets in strong indifference, only awaiting the last call of the porter with his massive keys, to sink into their long winter of apathy and rest before the opening of still another season of gaiety and life.

Instead of the stream of richly dressed, powdered and painted belles who have made Broadway their summer's promenade, the only fair ones seen to-day hurry by in the thickest of wrappings, blue-hued noses, and cold reddened cheeks, and well they may, for, instead of the days of only a week ago, when we all earnestly wished we might take the marrow out of our bones, in order to let a little refreshing draft through and reduce the fiery temperature, we now indulge in a coldness only to be compared with that of the north side of a grave stone in January, look every day for the first snow of the season, wander fruitlessly where we can raise a sufficiency of the needful to take our overcoats out of pawn, and are, on the whole—utterly wretched!

One thing has been gained, however, by the change in affairs.—Rest!—sweet rest! And a glance into the almost deserted office on the corner now, would signally fail to add credence to the tale of the magnitude of the summer's "roast," which any one, in vain glory and pride, had indulged in! The scene would really be a treat for "our special artist," or any in search of the aesthetic and beautiful.

Enlarded even many of the few remaining survivors wears the full dress uniform of the new regiment and a dress parade of grand mounting is gorgeous to see; office coats, of the most dilapidated and forlorn nature, they were once, but the effect of a judicious application of paint brush and sign to the walls (Japan has been truly wonderful in its transforming influence. Owen, as manager, wears the shoulder straps of a brigadier, the stars of (gold) are full, and would truly make, while his back displays the legend "I NEVER SMOKE." Indeed, wears numerous sergeant's chevrons; on one sleeve (up) for presentation to the admiring gaze of importunate washerwomen) "NO BILLS!" and turning round displays "PLUME. F. H. P." (bustee) in most stylish letters.

Williams, bending over the silent "quad," deep in a week-old *Herald*, is covered up and lost to sight behind the cheering reassurance

"FILL SOON BE HUG SWELL HOT!"

On Chase's bar, is emblazoned the full stencil

"WESTERN UNION

TELEGRAPH,

FO T NO BILLS.

and usually walk about in the serene unconsciousness of an appendix and insult in the shape of stock blanks, old newspapers and handbills pinned on below, in utter disregard of the warning so prominently displayed, while Hill still bending over his books in vain search for that fifty cents difference, bears aloft his tattered ensign and touching motto of

"O GO WEST

I

PILL

NO BUGS ON THIS."

Brusie, who brought up the stencil for a legitimate use, meanwhile sits in the closet, sad and disconsolate, quoting to himself in sheer desperation "To what base uses can such things be put?" and "Can such things be—and stencil make so many words without our special wonder?"

But the fun is of a mournful kind, and the ranks are fast thinning down towards the winter force of one man, two boys, and a yellow dog, who stand by the ship manfully, boyfully and dogfully, until the dawning of another season.

O'Reilly has torn himself away to resume his regular work on the Albany quad and think—think—think—of the fairy forms and blooming faces which have gone down before him.

The Bonanza's envelope has been packed and pocketed, and he too gone to seek new fields of conquest and glory.

While the irrepressible Wheelock, in sorrow and dismay, with pockets filled with bills, and *without* greenbacks, has boarded the Boston train, and left naught but his valedictory behind him:

Without a pass, I walked from Troy,
And landed here dead broken;
I'm hungry, cold and tired, my boy—
My first words were thus spoken.

I came from Newport's breezy shore,
And from the far Fall River,
I tramped a hundred miles or more,
On crackers and cold liver.

But now to Schmidt's broad board I'll go,
To slight the schooner never,
For men may come, and men may go,
But I'll drink on forever.

With many a bill my tailors fret,
With many a dun I'm worried,
Which leaves me e'en dead broke, you bet,
But yet I ne'er am flurried.

I drink, I smoke, I sing my song
With any right good fellow,
And do not think it any wrong
To treat of being right mellow.

I've told you boys about the time
"When I was out with Sprague"—
I've sung you songs in many a rhyme
Of Newport cool and shady.

But now attend to all our fun—
My way I'll ne'er get lost on;
My bills are paid, my toil is done,
And I am off for Boston.

A long time well to all my joys,
And daily hotel ration;
I'll button-hole the Boston boys
With tales of dissipation.

For I chatter, chatter as I go,
Way back beyond Fall River,
For men may come, and men may go,
But I'll talk on forever!

And he is still talking, I suppose; we heard him away down the line, long after the train was lost to sight, but he is still to memory dear. NUT CED.

Typographical "Bulls."—The Telegraphic Controversy.

BOSTON, Sept., 11, 1874.

To the Editor of The Operator:

If I ever entertained a feeling of bitter animosity toward any human being, I did toward the compositor who "set up" my last letter in your columns. The number and enormity of the "bulls" made in that performance was simply frightful. For instance, he made me say that Mr. G. F. Milliken was the author of the "Red Stocking Polka," instead of Mr. J. H. Milliken. Now, although the musical talents of the former gentleman are well-known, I have never heard that he finds time to indulge in the laborious recreation of composing music. Besides which, justice to the author of the piece mentioned requires this correction.

By the way, Messrs. O. Ditson and Co. have just published a march by the same author, "The Battalion March," dedicated to the popular commander of a prominent military organization of this city. It has been arranged for a full band, and is pronounced the best of Mr. Milliken's compositions.

There were several minor typographical errors, but they will be recognized as such by those who know the parties, and to those who do not it doesn't matter.

I give you below a few extracts from the *Herald* which explain themselves:

Mr. Stanford, an operator in the Western Union office in this city, sent 87 messages to Portland on Monday, in one hour, beating the best time yet made. The messages had to be translated instantly from the telegraphic alphabet, and written out in full at the rate of 42 words per minute.—*Boston Herald, Sept. 8.*

TELEGRAPHIC MESSAGES. A number of telegraphers object to the statement published on Wednesday, that the performance of Mr. Stanford in sending 87 telegraphic messages to Portland in an hour, was "the best time on record." They say the best recorded time, on commercial business, was made by Mr. W. E. Kettles, now of the Western Union office. On January 19, 1868, that gentleman transmitted 96 messages of twenty words each, exclusive of address and signature, Washington, D. C., to Plaister Cove, C. B., a circuit of over 1,000 miles, in one hour; and they were "received," that is, copied with a pen, by Mr. W. F. Snyder at Plaister Cove, and also by Mr. A. S. Brown, manager of the Western Union office at New York.—*Herald, Sept. 9.*

THAT LITTLE TELEGRAPHIC CONTROVERSEY ONCE MORE.—Mr. Kettles sends us the following: Noticing an article in your issue of this morning to the effect that I sent 96 messages in an hour to Plaister Cove in 1868 impels me to correct the statement, inasmuch as the rate of number was 94. The item published in the *Herald* and other Boston papers of the 8th and 9th instant in regard to Mr. Stanford's feat of Monday was, I am assured, written by a Portland correspondent for local readers, to be placed in the same category with other local trials, which have heretofore escaped extended publicity. Furthermore I would say that the centennial year will bring an opportunity for Mr. Stanford and other fast telegraphers to unite in a grand tournament at Philadelphia, and show to the world what can be done in the way of rapid telegraphing.—*Herald, Sept. 10.*

The effect of the controversy has been to set the whole office in a blaze of excitement on the subject. If one comes into the office now, at any time, day or night, he finds at some out of the way desk, a figure bent double over a key, grasping it frantically with the right hand, in the left a counter blank, and in front a watch, the features screwed up into the most ludicrous expression of a terrible earnestness. Don't speak to him. He is not to be dis-

turbed. He is "seeing how fast he can send." And such sending! 'Tis enough to raise the shade of Burns in silent protest against such an outrage on the Morse alphabet.

The excitement will, perhaps, reach its climax next Monday, when Stanford and Kettles, the rival candidates for the championship of the office, are to have a trial, and then we hope the matter will be settled without further dispute. Kettles has a national reputation, and the old ones who know him, will not fear for his laurels. Stanford has won much repute on the Portland duplex, as a fast sender, and they say the Down-Easters all swear by him. So your readers can imagine there is fun in store for us.

Mr. George Wheelock arrived from Saratoga to-night, and will stop at the Parker House, of which office he assumes charge on the 13th.

Thank you, Mr. Editor, for your kind words in the last OPERATOR. I was aware I had many enemies in your office, but I did not give any of them credit for being mean enough to take such a method of attacking me as in the "Montreal" letter. J. S.

[We hope J. S. will overlook the "bull" referred to above, and from his well-known gallantry feel warranted in assuming that he will, when we tell him that this also is on the ladies.—ED.]

Painful Accident.—Change.—New Uniform for W. U. Messengers.—Plugs and Cheap Salaries.

PHILADELPHIA, September 10.

Mr. D. H. Louderback, formerly of Philadelphia and New York, well known among the fraternity, and now connected with the Western Union main office, Chicago, Ill., and his estimable lady, have been in Philadelphia since the latter part of July. Early in that month, in Chicago, while out shooting, Mr. Louderback met with a very painful accident by which he lost the sight of his left eye, in addition to suffering severe pain. He has been on here for treatment, and has so far recovered as to be able to return to Chicago towards the latter part of the present month.

Mr. J. Brady Lyndall, a well known telegrapher and for some time night manager of the Atlantic and Pacific Co., leaves here in a few days to accept a position in the Western Union main office, Chicago, Ill. E. L. Maize, a W. U. operator, has had a bad attack of fever, and is very sick at the time I write, but is expected to recover all right. His physician said it was caused by the "ice cooler" in the W. U. main office being in a bad condition. This announcement frightened a large number of the "boys," who have given it a wide berth since.

The operators who filled the summer offices are gradually returning. The Western Union messengers present a very nice appearance now, in a pretty suit of blue. The cap is something after the style of the one worn by the U. S. soldiers. The peach season made business very heavy during its continuance, but the rush is almost over now. Everything else in these quarters is about as usual.

Philadelphia is evidently getting to be the headquarters of the "plug" members of the profession; for I think more downright "bad" operators can be gathered hereabouts than in any city in the country; indeed, it seems that one of this class of "cheap men" can secure and retain a situation with more certainty than an operator of acknowledged ability, and the result is that "bulls" are plentiful and business is not handled with that promptitude that it should be. It all comes of this cheap salary business, for which Philadelphia "lays way over the deck." Good men and reliable telegraphers never remain here longer than they can help, because in almost any other city, many of them with advantages to live in, superior to this "Quaker town,"

better salaries are earned, more opportunities for advancement offered, and operators are treated as men. It may not be known that there can be found here, operators working for fifty-five, sixty and seventy dollars, that elsewhere could command—and usually get when they leave here—ninety and one hundred dollars per month. As an instance of how this "cutting down" under a pretense of economy is practiced, an operator of known ability, who had subbed here during the summer, when through, was offered sixty dollars per month to continue. He a first class operator too! But he was "first-class" all the way through; thoroughbred as he was, he declined it, and let it be said so to his honor. He secured a situation in another city, where he got just exactly one third more than he would have been paid here, and chances to earn extra, not to be had in Philadelphia. Now, if there were more men with this spirit in them, salaries would not be so low as they are to-day, and good men would be sought for, but now there is no appreciation of a man, none of that satisfaction to be had that every man likes to feel when he does his work well. Such instances as the foregoing are rare, and deserve the commendation of all operators who desire to see "the business" kept up to its proper standard. I am not of these who do not like to see others endeavor to become operators, but I am unalterably opposed to "three or four months college plugs" being placed on the same footing with experienced operators. If good men would refuse to work for less than a good fair salary, a change would be brought about. It might not come at once, but it would surely come in the end.

Of course there are exceptions. A few good men are to be found here and there, but the number is small compared to former times, and seems to be growing less all the time. That will be a bad time for operators, if it ever comes, when one company controls the business. Opposition—good and strong—is what is wanted all the time. Let these companies that are already in existence remain separate, and hurry along that California Company. What say you, gentlemen, all along the line? When I go to Congress I shall have a law passed, similar to one in Pennsylvania, prohibiting the consolidation of corporations. I shall amend it, however, to make it read, "and especially Telegraph Companies." Should any of them get there before me, please attend to this.

JOLBERT

The Way they Talk—No Faith in "Gobblers."

DUBUQUE, Ia., Sept. 12.

To the Editor of The Operator:

'Twas with great surprise and sadness, that we heard the news—The *Telegrapher* has gobbled THE OPERATOR. I had labored long on a "History of Potatoe Peelings, and their Effect on Concave Relays," but when I heard the news I silently rolled up that manuscript, and stole to my little room, there to meditate on the wonders of consolidation—and gobblers. It seemed funny that THE OPERATOR could be gulped down so suddenly; and still more singular from the fact that the last issue seemed so healthy.

The old saying: "Don't crow till you're out of the woods," appears a very true saying. Perhaps somebody counted their chickens before they were hatched. Exactly!

Telegraphic news is very scarce around here—but water ain't. Had more rain here in the past week than you could shake a stick at.

Last Thursday was the day for rains; for about an hour objects could not be distinguished across the street, the rain being so heavy. Of course the ground could not take it all in, so the cellars and basements had to. The basement under our office (which is used as our battery room) was soon flooded; mud

covered the floor to the depth of a foot; and the water came within two inches of the lower tier of our main battery. Fortunately, at this stage the rain ceased, and our manager was made happy.

Frank Pickering, of Waterloo, has gone East on a month's vacation, Jack Bates, of New York, being Pick's relief. Jack is a good boy; hope he will remain in this section of the country.

Walter Dean, of Lemars, has a week's leave of absence, and visits his friends here.

Lisabay & Placett is the latest for Livy & Purcell. Relay stuck!

I send you three renewals and one new subscriber; we don't believe in gobblers. C.

From Minnesota.

MINNEOLA, MINN., August 31, 1875.

To the Editor of The Operator:

Being a subscriber of your worthy paper, I venture to write you a short article, in regard to affairs on this line, superintended by W. H. Drake, who fills his position to the satisfaction of all employees! Our circuit is 270 miles long, and stocked, mostly, with imported operators from Doylestown, Wis. "Duplex" is a word but little known, and seldom heard on this line, but business will soon demand increased facilities. Another wire will probably be strung this fall. We have a few rushers, prominent among whom is I. C. at B. N., formerly from Doylestown, Wis. This country is full of plug operators, deriving their daily bread from free-lunch counters, and anxiously waiting for an opening.

The spasmodic jerking on his key of our end man, at Sioux City, is probably caused by thoughts of his last meeting with the brunette.

This matter will be of immediate interest to the boys along the line. GRASSHOPPER.

Not a Joke Toward the End.

A granger, from Macoupin county, stepped into a local telegraph office at Nilwood, the other day, and asked for the operator. A slim-looking individual, of the pin-back order, without looking up from his instrument, informed him that he was the "wire-jerker."

"Well," said the granger, "my name's Jerry Hogan, and you see—the fact is, my old woman's had another gal, and I want to dispatch to Aunt Nancy in Zanesville."

"Very well, sir," said the operator. "The rate is 30 and 3. Just write your message." The look on the granger's face was one of bewilderment. "Well," he said, "you see my larnin' ain't—"

"Oh, I see. Can't write."

"Not exactly that, but Aunt Nancy's eyes are very—well, I reckon she could read your hand—write better'n mine."

"All right sir; in that case I will send it by our 'Duplex,'" at the same time handing the granger the end of a wire. "Now, all you have to do is to wrap this wire around your hand, and take this in your mouth," and he handed him the end of the ground wire.

The granger wrapped the wire several times around his hand, and, leaning over the table, took the ground wire in his mouth, when—bit. One hundred and fifty cups of Calland's battery went through him, like hot grease through a gridiron. And in just twenty-eight seconds by the dial, Mr. Hogan was monarch of all he surveyed.

Now that granger had been a granger, and had built hog pens and planted corn all his life. And when he bought boots he always got the worth of his money; while the operator was an operator by birth, and when last seen was counting railroad ties between Summit and Bridgeport, and feeling in his pocket for \$20 with which to take lessons on the health lift.

SPORTING.

The Oar and Rifle.

"Messmates hear a brother sailor,
Sing the dangers of the sea."

About 1 P.M. on the 12th instant, a reporter of THE OPERATOR boarded the swift steamer Shady Side at the foot of Fulton street, N. Y., bound for High Bridge, to witness the boat race between "Cap" Thomas and Gib Merrill. It was blowing about half a gale, but we skimmed merrily onward, and reached Harlem in good season. The wind meanwhile having died out everything gave promise of a good time, and in embarking from the Harlem boat we were quickly on the little steamer Tiger Lily, which steams from Harlem to High Bridge. On board we met with Messrs. McCarthy, Jackson and Mitchell, of the W. U. force, and several Atlantic and Pacific men, to whom we were introduced, but have forgotten their names. Just as the boat was pushing off, we caught a glimpse of the veteran "Dad" Benett but for some reason or other he did not appear at the boat race, for which we all felt sorry. After a short but pleasant sail we arrived at the scene of action, where we found some thirty-five W. U. and A. and P. men anxiously waiting for the race.

With little delay the starters, John A. Ashhurst and E. S. Risdon, pulled down the river to the starting point, the contestants leisurely paddling after them. That prince of good fellows, William Blanchard, was chosen referee, and at the word "go" a very fair start was effected. Gib Merrill kept in the middle of the stream while "Cap" Thomas hugged the shore. Gib took the lead, and maintained it to the end, beating Thomas by nearly a minute. The distance pulled was one mile straight away.

The watermen said that the course "Cap" took made him pull dead against the tide, while Gib was more favored in that respect. At all events, to settle their merits beyond cavil, both men declare their willingness to race over the course again, and accordingly the return race is set down for 2 P.M., Sept. 19, when a full delegation of the boys will be present. The referee said the race was perfectly fair, and we have not heard his words disputed. Besides the contestants several of our men pull a fine oar, noticeably Ashhurst and Moffat, and the question naturally suggests itself, why cannot we have a rowing club? It is splendid exercise, and is certainly worthy of consideration.

After the rowing match, Fred Baldwin and John A. Ashhurst each chose twelve men, and contested in a rifle match, distance 50 yards, for two kegs of lager beer. The shooting was remarkably close the following being the score, the highest attainable number of points being twenty, one, two times each.

BALDWIN'S SIDE.

Thomas	4	10	Total 14
Leslie	12	12	" 24
Landy	12	9	" 21
Spencer	8	10	" 18
Risdon	8	10	" 18
McCarthy	3	10	" 13
Gilpin, A. and P.	12	10	" 22
Wagner, A. and P.	0	2	" 2
Allen	5	5	" 10
Jackson	8	12	" 20
Deans	7	10	" 17
Moffat	12	11	" 23
			203

ASHHURST'S SIDE.

Merrill	10	10	Total 20
Crate	10	7	" 17
Ashhurst	10	9	" 19
Mitchell	12	8	" 20
Hickey	6	7	" 13

Hoyt (A. and P.)	10	11	" 21
Larcombe	9	10	" 19
Hurley	10	4	" 14
Harmon	3	8	" 11
Davin (A. and P.)	0	12	" 12
McCarthy	12	9	" 21

Total 201

At the end of the rifle contest came several jumping matches. The contestants finally narrowed down to Risdon, Landy, Hurley, Jackson and Mitchell, but it was so close that it was hard to tell who was ahead; the position of the men's names probably show their merit. After some fine singing, all hands took the seven o'clock boat for home, and one and all will long think of the day with pleasure, not a single unpleasant word having been spoken nor an accident happening to mar our enjoyment.

At the Bat.

On Thursday, Sept. 24, a nine from the Western Union office were badly defeated in a game of base ball at the Elysian Fields, Hoboken, by a nine from the Associated Press. The weather was all that could be desired, and the boys had a splendid time.

After the game, the members of both clubs and their friends, who were present in large numbers, proceeded to Grove's, on Washington street, where things were in readiness awaiting their arrival.

Mr. McAneeny having been elected chairman, stated that the object of the meeting was an evening's fun, and after some well executed pieces on the piano by Mr. John A. Ashhurst, the following toasts were proposed:

"Our Quaker City guests," responded to by Mr. Jones.

"Our Texan brothers," responded to by Captain George Eitemiller, who took occasion to inform the boys that he had lost his "grip," a remark that was received with subdued applause.

"The New York office," responded to by James H. Lyman.

"The Associated Press nine," responded to by Captain DeGraw.

"The Western Union nine," responded to by Captain Sawyer.

Fred Catlin, J. J. McDermott, J. H. Lyman, D. W. McAneeny, and W. J. Landy, of the operating department, and Mr. Singleton, of the auditor's office, rendered some favorite ballads, after which all hands dispersed, well satisfied with the evening's entertainment.

A scarcity of "subs" prevented the representative of THE OPERATOR from being present, much to our regret.

FOREIGN NOTES.

Messrs. Longmans are preparing for publication in three volumes, copiously illustrated, a treatise on galvanism and electro-magnetism, by P. of. Gastay Wiedemann, translated from the second German edition, with the author's sanction and co-operation, by the young English F. R. S. Professor of Physics in University College, London.

The second number of the *Journal of the Physical Society* contains a paper by A. Jurquen on the determination of the electric capacity of bodies and of their condensing power by means of a Thompson Electrometer; also a paper by M. C. Duquelet on the electric light in rarified gases.

M. Chantark has been extending his interesting observations on the influence of a magnet on rarefied gases in Geissler tubes illuminated by an induction current. He finds that in all the simple bodies of the family of chlorine, and the gaseous or volatile compounds derived from them, the magnet

produces not only a change of tint in the tube, but especially a marked brightening of the spectral lines. The light of sulphur and selenium is quite extinguished. That of oxygen and of compounds of carbon is not sensibly altered. The beautiful bands of the nitrogen spectrum are altered in the red and orange, the colors being nearly extinguished, or replaced by a dull tint without any channeling. The hydrogen lines are unchanged, except a very powerful electromagnet be used, in which case a bright sodium line appears, doubtless produced by sodium of the glass, detached by the more energetic action of the gas. The author describes various other striking effects.

It is instructive to note the prominence now assumed by electricity in physical science, and the activity with which this branch is at present being cultivated. As an indication of this we may mention, that in the current number of *Poggendorff's Annalen* (No. 6) out of ten papers no fewer than eight are on electrical subjects, more or less. These are:—On the duration of the polarization current; On objections raised to Weber's law; On demonstration of alteration of electricity through flames; On the theory of laying and testing submarine lines; On the magnetism of steel bars; On the permanent magnetic moment of magnetic bars, and Hacker's Formula; On the influence of texture of iron on its magnetism; and on Spectral Analytic Researches. In this last the author, M. R. Bunsen, insists on the use of the spark spectrum as indispensable in searching for new elements, or in order to precise distinction of substances which are so like one another in behavior that the ordinary re-agents do not enable one to recognize them.

In France the telegraphic service has yielded in the last year an excess of \$400,000 over expenses. The year before expenses and receipts balanced, but always previously there was a deficit. Thus it appears that cheap dispatches do develop an increased use of the wires; but it takes longer to get the effect here than it did to get the equivalent effect in cheap postage.

A Sensation at Montrose, N. Y.

Norman Chase has for some time past officiated both as ticket agent and telegraph operator at Montrose. About eighteen months ago he eloped with the daughter of a hotel keeper in the village, named Sloat, and after an absence of a few days they returned man and wife. On this representation, the father of the young woman invited them both to make their home with him, and about two months since a grandchild was born to him. Within the past few days, Chase announced his intention of leaving Montrose, and, on being asked whether he intended taking his wife and child with him, replied that he had no wife. This astounding assertion having reached the ears of the father, he at once hurried to White Plains, and, after consulting a lawyer, procured an order for the arrest of Chase from County Judge Gifford, on the ground that the former was about to go away from the neighborhood, leaving his board bill unpaid. Chase was accordingly arrested on Thursday, and furnished bonds in the sum of \$1,000 to answer the charge. The affair has occasioned a diminutive sensation in the vicinity of Montrose.

This should be a warning to all telegraphers who happen to owe their father-in-law a board-bill. The same should be liquidated before attempting to leave town.

DIED.

BRESEE.—At Binghamton, N. Y., Sept. 10, 1875, "Morse," infant (a twin) son of Hubert Y. and Grace A. Bresee, aged 3 months and 18 days.

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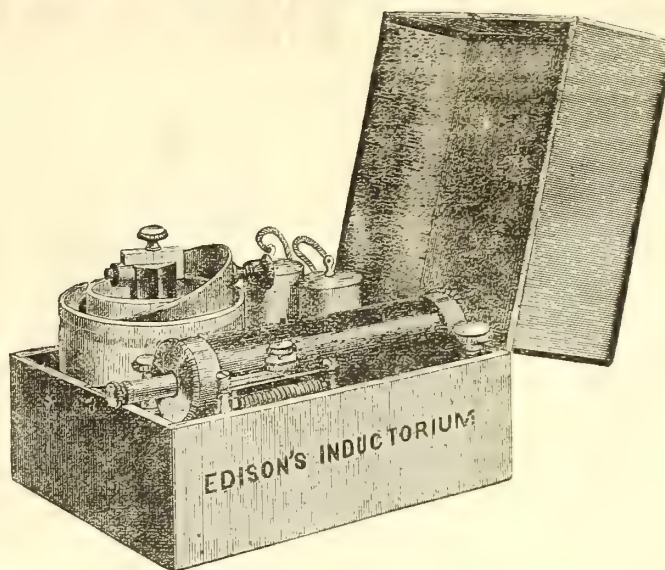
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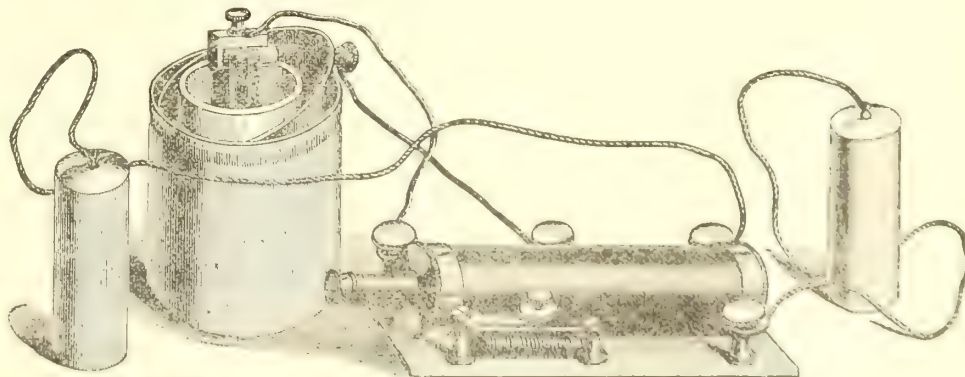


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R. O'RIOGAN. Sc

The second cut shows the manner of connecting the coil with the battery, and electrodes. The latter when applied to different parts of the body for medical purposes, should have moistened sponges placed in the hollow part of each. The handles, which are held by the persons applying the current, should be wrapped with dry paper to prevent its passing through his own body.

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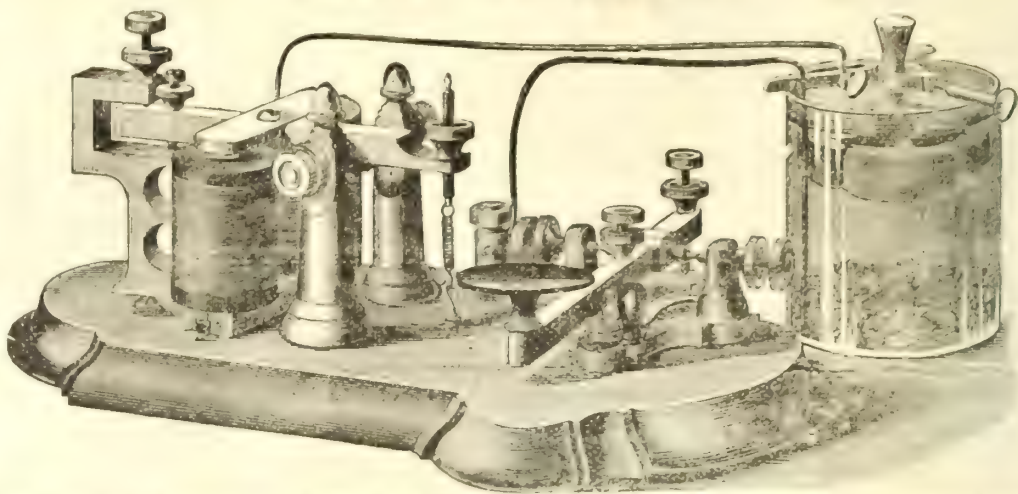
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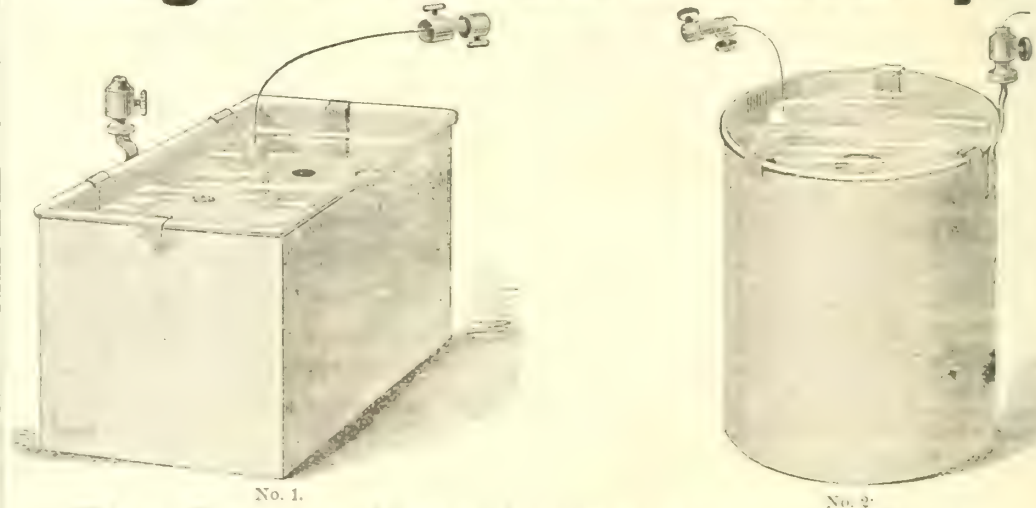
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VOL. IV.

NEW YORK, OCTOBER 1, 1875.

No. 3.

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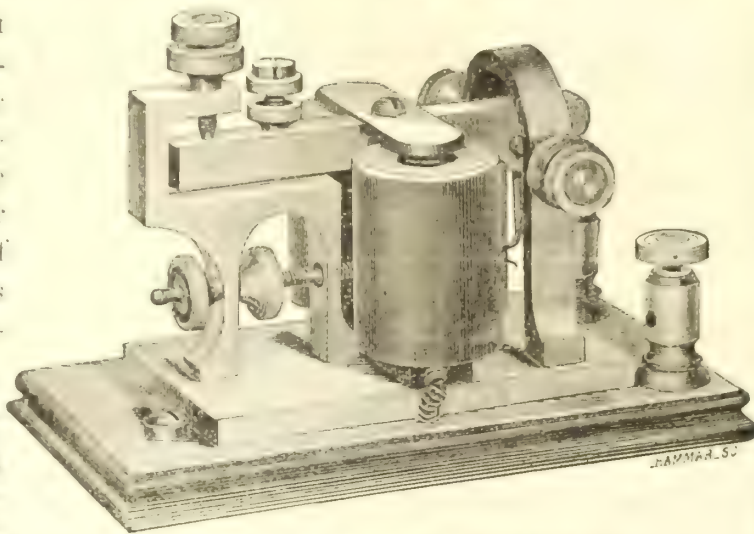
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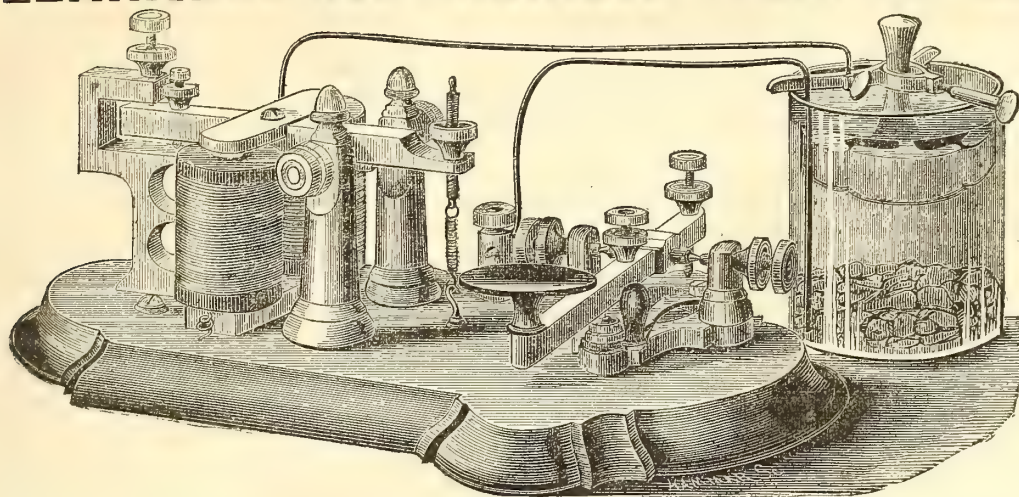
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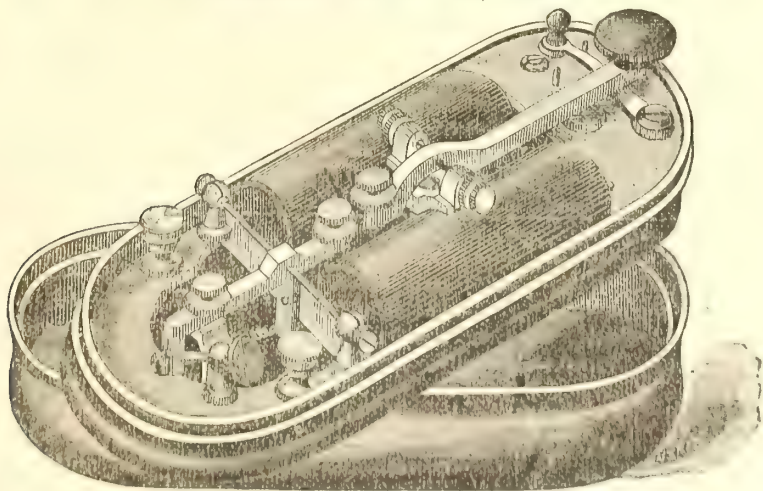
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[Written expressly for The Operator.]

PISCATORIAL.

A day among the "Big Fellahs" in Connecticut.

BY AN EX-OPERATOR.

"What do you say to a fishing excursion on the morrow?" said my cousin "The" to me one afternoon in the early part of the month of July, as we were lolling on the grass in front of the old country house of my kind-hearted Aunt--his mother--where I had come to rusticate for a few days during my brief vacation.

"With all my heart!" I exclaimed, joyously, "for of all amusements which the country affords, none possesses such an attraction for me as fishing."

So it was speedily arranged that we should start bright and early on the following morning, and "The" at once set himself about making the necessary provisions for our piscatorial exercise. The rods were taken down from their accustomed place over the fireplace, the lines brought forth from the old fashioned cupboard that stood in the kitchen corner, and adjusted, and everything placed in readiness that there might be no delay in the morning. "The" took upon himself all the details of the arrangements, and although I was anxious to assist, for the prospect of a day's sport in the woods and by the streams had infused a new life into my invigorated frame, he insisted that I should quietly enjoy my sear where I was, and not bother myself with the arrangements.

I went early to bed that night, and had the most enchanting dreams of speckled trout, pickerel and the other funny delicacies which inhabit the waters of these tiny mountain brooks. The robins were singing under my window when I awoke, and a faint stream of sunlight flowed in through an opening in the foliage that curtained it. But it was neither the robins nor the sunlight that had aroused me. There was a not gentle rap on my door, and the boisterous, good natured voice of "The" saluted my ears with "Come old fel! it's time we were moving. The dew is beginning to dry on the grass, and we shall have a long walk in the hot sun if you don't hurry."

I needed no second call, and attired in a suit of farm clothes which I had borrowed of one of the boys for the occasion, I was soon down in the kitchen, where I learned there was to be an addition to the party. After I had retired for the night, "The" had gone over to one of the neighbors where his stalwart brother Sam was engaged in helping them through the haying, and invited him to accompany us on our piscatorial jaunt. I was right glad of this, for there was not a hole in "The River," as they designated the little stream where we were going to seek for our day's sport, containing a fish, that Sam was not thoroughly acquainted with. Besides, Sam was one of those honest, good-natured fellows that one so often meets in the rural districts of New England, and his kind hearted attentions to my comfort whenever I had come to make them a visit had made him a great favorite with me. In fact, I liked him pretty near as well as I did "The," although the latter was nearer my own age, and I had known him more familiarly.

Hastily dispatching a cold luncheon which had been prepared for us on the night previous, we were soon on the road, with our fishing rods on our shoulders, and my own heart happier and lighter than it had been before for months. The birds were singing in the trees, and the light morning breeze rustled the leaves in harmony with their swelling voices. The air was pure, fresh and invigorating, and my bounding heart beat time to the tinkling of sheep bells and the thousand merry melodies that filled the clear morning air. Along the dusty turnpike we journeyed joyously, laughing and singing in the exuberance of our happiness, until we reached

the "old road," grass grown and blooming with dandelions and daisies and looking as if its well sodded bed had never been furrowed by the busy wheel of travel. The atmosphere is fragrant with the odor of wild roses that blossom in countless profusion along the meadow skirts, and tiger lilies peer at us over the low stone walls that shut out the drowsy cattle grazing by the roadside. There the stalwart farmer is stripped to his work, and the ring of his scythe has a joyous melody, as the tall grass bows before the steady, sturdy swing of his brawny arm, telling of teeming barns and granaries, out of the abundance of which shall be fed the pale-browed children pent within the city's gloomy walls.

All these things are commonplaces to The and Sam, and they smile at the enthusiasm which is manifested in my countenance and conversation. They, who have spent most of their lives among these scenes, can see nothing in the woods and fields and flowers but the simple order of their everyday lives. They are both practical. They live in the country because they were born there, or because they were brought there in childhood, and by the force of circumstances over which they have no control. They till the soil because it is necessary to their livelihood. The songs of the birds and the rustling of the leaves to them are dull monotony. The incense of flowers and the odor of new mown hay are scarcely perceptible to their senses. They do not find "sermons in stones—tongues in the running brooks." They do not read the lessons that are so plainly written on every leaf of Nature's open book. And yet they are happy as the world goes, for they have no vain longings; with them there is no grasping after things beyond their reach; they are themselves simple-hearted children of Nature, taking everything around them as a matter of course, and never thinking to inquire into causes. Why should they not be happy?

So for an hour we journey along this quiet country road, my own soul drinking and laving in the mellow beauties of the morning, when the voice of the stream for which we are seeking breaks upon our ears as it goes babbling and singing over the pebbles. We are soon standing upon the shore at the ford, where the road crosses the brook, and I now consider it my turn to smile, for the idea of there being fish of any respectable size in such a tiny stream as this seems quite ludicrous to me, who have never indulged in the piscatorial art except at "The Banks" or in the deep, broad waters of the majestic Hudson. So I ask The, with a quiet leer on my face, if this is the proposed fishing ground, and receive a prompt affirmative answer. "Are there any fish in that tiny tad-pole stream?" I ask, demurely. "You will see it rights," is his significant response, as he quietly proceeds to unwind a small perch line, and cast it out into "deep water." Sam follows suit, and in a few minutes several of the smallest kind of "small fry" are landed on the bank. I now smiled again, and said "Why, The, what the dence do you want of these little fellows? I thought you said there were big fish here." "So there are," he returned; "we are going to fish for pickerel, and these little jokers are for bait. Fishes are like humans—the big ones swallow the little ones." This was apparently satisfactory, and I said no more; but I could not swallow the big fish until I had seen them.

Having caught enough bait, it was resolved that the party should divide, The and the boy Billy, whose presence by the way, I have before neglected to mention—crossing over at the ford to the east bank of the stream, and Sam and myself remaining on the side where we then were. It was the design of Sam and myself to fish the stream down to the millpond a mile or so below, and there join The and Billy, who were to push on in advance and secure a boat, that we might the more easily explore the

deep water in search of the larger pickerel with which the stream was said to abound.

Sam in the meantime adjusted one of the small perch on his hook preparatory to a shy at the denizens of the deeper portions of the brook, and fixing himself in a favorable position on the bank, he whipped his bait into the middle of the stream, saying as he did so, "Waal, there used to be a couple of nice fellahs in here, and I s'pose I might as well git 'em now as any time."

Sam was an "expert," and his bait "played" most beautifully in the morning sunlight as with a jerking motion of the rod he skipped it along the surface of the water, to imitate the swimming of a small fish. I watched him carelessly at first, for I had not yet reconciled in my own mind the idea of a big fish in little streams. Presently, however, the pole ceases its motion, and drops steadily and firmly into Sam's brawny palm. I look at his eyes, and they are flashing; I glance from them to the line, and as I do so it cleaves the water, and in an instant the fishing rod whizzes past my ears and I hear a tremendous floundering in the grass a few feet from where I stand. I rush to the spot, and there, sure enough, is what I call one of the "big ones"—certainly not less than fifteen inches in length. Sam, however, says that is only a "little fellah;" and laughs at my enthusiasm and admiration. I confess that I was aroused now, and I, who had watched him so carelessly but a moment before, now entered into the sport with all the zest of a true sportsman. My bait was soon adjusted and flung to the stream, but with the most seductive arts I could use I could not induce a nibble.

"Guess t'other one's gone!" said Sam, as he commenced winding his line around his pole preparatory to moving; "if they don't bite in two or three minutes you needn't try 'em any longer. We'll go further down." And so we pushed on again through the tall grass and underbrush that skirted the stream, until we reached a quiet nook, where the black waters flowed deep and turbidly. The dark forest trees dipped their green boughs in the water as it flowed silently by, almost entirely shutting out the sunlight from the spot. We had emerged upon the shore at the only visible opening in the trees, and I knew from the smile on Sam's face that he expected to do something handsome here. There was only room for one of us to throw out, and I was perfectly willing that he should be that one. I was not accustomed to this kind of fishing, and it required considerable skill to land one of these big fellows safely on the shore. So Sam's bait was soon dancing on the water again, and I stood peering through the thick foliage eagerly watching it as it skimmed along. Again I saw the rod at rest, and again I heard that whizzing sound as it swiftly cleaved the air. "There is what I call a big fellah!" said Sam, as he sent a monster twenty-three-inch long flying from his native element to flounder in the grass—"There is what I call a big fellah!" I quickly placed him on the string which I had prepared for his reception, and before we left this quiet little spot we had five or six beauties that would have delighted the eyes of Sir Isaac Walton himself. I had tried my own luck in the meantime, but "nary" fish could I by hook or by crook seduce to the shore. They would not come at my call. They scorned my seductions, and I fancied that I could hear them laugh at my impatience. Perhaps, however, the laugh came from Sam, who enjoying his own good fortune, could afford to be hilarious over my ill luck.

Fearing that The and Billy might become impatient at our long absence, Sam now proposed that we should push on and join them, and I assented. We accordingly fell back from the stream and struck into a meadow path, pushing on as rapidly as the nature of the ground would permit towards the head of the pond, where we expected to meet the,

boys with the boat. Arrived at that locality however, we saw neither boat nor our companions, and our further progress along its bank was completely barred by an impenetrable jungle on the one hand and a precipitous wall of rock on the other. There was no alternative but to cross the stream or go back. The latter neither of us were inclined to do, and how we should accomplish the former was a problem which I turned over in my mind in vain. I could not accomplish its solution; I can not swim a stroke, and swimming seemed to be the only possible plan of getting out of the difficulty, for an occasional glimpse of the stream as we neared the head of the pond had told me that it was both wide and tolerably deep. I finally concluded to trust the solution of the difficulty to Sam, knowing that he could get us out of the trouble if any one could.

So we turned our steps again towards the bank of "The River," Sam taking the lead, and making an opening for me to pass through as he went. We were only a few minutes in reaching it, and once gained Sam commenced divesting himself of his unmentionables. He had not said one word to me as to how he designed crossing the stream, and up to the present time I had asked no questions. The water flowed black and clear at my feet, some four or five feet deep, and I did not know how much deeper it might be in the centre. "Well, Sam," said I, "this is a go; this stream is too deep for me to wade, and I can't swim a stroke."

"Never mind," he replied, a waggish smile breaking over his good-natured face, "never mind, I'll cross over and you can foot it back on this side." So saying he stepped down into the water, and I indignantly turned to make my way back to the foot path. "Hold on, my boy," said he, "don't be in a hurry; I was only joking; look here—I've got a bridge that will carry you safe over;" and he slapped his broad shoulders with the palm of his hand. As he stood in the water his stalwart figure still towering above me, I thought there could be no danger in trusting myself to such a bridge and accordingly, mounted to his shoulders. I am what, in the parlance of the ring, would be called a "feather weight," and so far as that was concerned, barring accidents, Sam could easily pick up a couple like me, and carry us off without difficulty. But it sometimes happens that a proper allowance is not made for contingencies, and it proved so in this case. Now, as well as Sam knew "The River," there was a stone lying about midway the stream at this point which he had never happened to find before. This stone was slippery, too, and as Sam's foot came in contact with it on this occasion, he staggered forward, and before I was well aware of the peril of my position I was floundering in about five feet of water. I came to the surface blowing like a porpoise, when Sam quickly seized me and dragged me to the opposite shore. I did not mind the bath especially, but here was an end to our days sport. So we quietly seated ourselves under a tree, and prepared to make the best of it while awaiting the appearance of our companions. They soon arrived, and after reporting that the only boat on the pond had been carried over the dam in a freshet, it was unanimously resolved to return home by the way we came. So we recrossed the river, this time without accident and took up our line of march, I, in my wet clothes not finding the route so pleasant as it had been in the morning.

SCENE ON A CITY LINE.—"Get your 52. Only 9 words there—N. Y."

City office repeats from period.

N. Y.—"You didn't say 'morning' the first time."

C. O.—"Of course you'd say so."

N. Y.—"No sir, I never lie on small occasions."

C. O.—Ah-h-h-h!

The English Telegraph Service.

The report of an experienced and capable committee, appointed by the Treasury in England, to investigate the causes of the increased cost of the service, since the acquisition of the telegraphs by the Government, makes anything but a flattering exhibit of that experiment in a financial point of view. In fact, they were forced to recommend radical changes in the present system, in order to avoid a large and annually increasing charge upon the Treasury.

The transfer from the private companies to the postal authorities took place in February, 1870, so that the committee had the results of five years before them in pursuing their investigation. While the telegraphs were in private hands, they were a growing source of profit. As soon as they passed into possession of the government, this relation suddenly changed, and the whole working machinery was placed upon a new footing.

According to the data upon which the original estimate of cost was predicated, provision was made for 1,528 clerks and 1,283 messengers; whereas in August, 1870, or only six months after the transfer, 4,913 clerks and 3,116 messengers were employed, or more than double the staff of the old companies. This increase of force explains partially the augmented expenditure; but there was waste and looseness in other directions.

At the outset, the appropriations for this service, were lumped upon the basis of cost to the companies, who had previously managed it successfully for themselves, and then sold out at a high appraisal, which has required a steady drain from the Treasury to make the two ends meet. For example, the deficit in 1871 between receipts and expenditures was, in round numbers, \$250,000; in 1872, \$657,000; in 1873, \$1,025,000; and in 1874, \$550,000, without including a large second grant. For 1875—6 the deficit is estimated at \$1,343,000. No rental is included on new buildings, which cost \$2,500,000.

Mr. Scudamore had almost the exclusive control of the telegraphs, and he managed to swell the bills enormously, as well as to make unsatisfactory returns—two things which usually go together. The accounts did not show under appropriate heads the losses and gains, so that a remedy might be applied at the bad spots. At last the authorities got alarmed at the constant demands for more money, and then there was a halt.

The committee made a comparison of the income and expenditure from 1870 to 1874—5, from which it appears that the proportion of working expenses to income has been:

For 14 months to March 31, 1871, more than 57 per ct.
In 1871—2—Nearly.....78½ per ct.
In 1872—3—Nearly.....89½ per ct.
In 1873—4—Nearly.....91½ per ct.
In 1874—5—More than.....96½ per ct.

What is extraordinary in these results is, that the deficit has augmented in the ratio of an increase of business, thus absolutely reversing the common law of trade. In 1871, with ten millions of messages, there was a surplus of more than \$1,500,000, while in 1875, with nineteen millions of messages, there was only a surplus of \$184,000 between income and actual working expenses.

These figures are not a cheerful study for the enterprising patriots who have labored so disinterestedly to saddle the telegraphs of the United States on the Treasury at Washington, and to create a new army of officeholders for the benefit of the Administration in power, to be supported by new taxes.—*N. Y. Sun.*

SUBMARINE TELEGRAPH CABLES.—In addition to five submarine telegraph cables now laid between Europe and America, there are 29 other submarine

cables in operation in different parts of the world. Of these, one was laid in 1867; two in 1869; nine in 1870; six in 1871; four in 1873; and seven in 1874.

Electro-Spirit Rappings.

A correspondent of the English Mechanic's Magazine writes as follows: In making my magnets for electric or "spirit-rapping" drums I proceeded as follows: I took five bars of 1-4 in. iron (one of them being very soft), 10 in. long, and filed them up. Around four of them I wound five layers of 32 silk covered wire. Remember, the layers were complete, and all leading the current in the same direction. Around the fifth I put one layer. Of course the bars were bent into horseshoe shape. The magnets were bound together so as to bring the fifth or last as near as possible in the center, and its ends to project 1-64 in. beyond the others. A piece of zinc as thin as writing paper was next soldered on one pole of the centre magnet. Now for the keeper. It was made of a piece of soft iron 1-16 in. thick and about 3 in. square; one side of it had a half of a split lead bullet soldered to the centre. This gave the keeper weight, and prevented it from recoiling when it fell. I had three, and sometimes four, guide bars on my keepers; but I believe that, for all ordinary purposes, two are sufficient. These bars are made very smooth, and fitted into holes made in the brass framework supporting the magnets. The whole was now placed inside the drum. A word about this drum. In the first place, it should be a very common looking one; secondly, it should be—in fact *must* be—pretty large, say at least 2 ft. in diameter—the larger the better. In fastening the "electric drummer" inside, do so in such a way that it will not affect the sound. If your magnets are of good iron—that is, soft and without flaws—and well made, you will be able to work the keeper from a depth of half an inch, which, when it falls on the bottom of a large drum, will make a pretty loud thud. Now get two of those brass rings with the brass screws attached, used for boxes, &c., and fasten them through the woodwork in the top of the drum, and solder the collected ends of the magnet wire to them. Next close the drum up, and it is ready. Now, suppose you wish to amuse a number of people in your own rooms, you must find a way from the battery to the centre of the room ceiling for the wires, so that they will be screened from observation. Let the wires terminate in two hooks to catch the drum rings. By the bye, it looks less suspicious to hang the drum on three hooks, which you can easily do. You can use a battery of six pint Daniell's cells, and have a contact breaker in another room, to be attended to by a friend; or, if you can manage it, run the wires under the carpet, and work the contact with the heel of your boot, having a spring for raising the top wire when the pressure is off. Use one beat for "no," two for "doubtful," and three for "yes."

IMPORTANT INVENTION IN TELEGRAPHY.—The *Golos* announces the arrival at St. Petersburg of M. La Cour, assistant director of the Copenhagen Physical Observatory, in order to submit to the telegraphic conference a new invention, which must produce a radical change in telegraphy. That invention gives the possibility of transmitting dispatches between two telegraphic stations through one wire only, and by means of many instruments, so that transmission by one instrument cannot impede the action of the other. M. La Cour, whilst engaged some years ago in investigating the passage of electric currents through condensing media, found that electricity is transmitted from place to place by undulations analogous to those of sound. In consequence of this discovery, he hit upon an arrangement of electro magnets and tuning forks, by means of which a particular current passing through

a tuning fork pitched to a certain note does not become merged in or confounded with other currents which, after passage through differently pitched tuning forks, are simultaneously transmitted along the same wire. This, of course, renders it possible to send many messages at a time through a single wire.

[This appears to be the same class of apparatus as that of Gray of Chicago. We surmise that they have but little practicability.—ED. OPR.]

The Magnetization of Gas Spectra.

Some very curious experiments have recently been laid before the French Academy of Sciences by M. Chautard, relative to the influence of a powerful magnet upon the spectra of gases contained in the Geissler tubes and illuminated by means of the electric current. In all simple bodies of the chlorine family, and in the gaseous or volatile compounds derived therefrom which thus far have been examined, the action of the magnet is immediate, and manifests itself, not merely by a change of color in the tube, but by an increased brilliancy of the spectral lines, which become doubled. The bodies thus far submitted to investigation, besides chlorine, which behave similarly include bromine, iodine, the chloride, bromide and fluoride of silicon, the fluoride of boron, hydro chloride acid, chloride of antimony and of bismuth, bichloride of mercury, and the protochloride and bichloride of tin.

The lights of sulphur and selenium become extinguished the instant the magnet is excited, and the same is the case with that of the tubes containing chlorine, bromine, and iodine, when the tension of the coil is suitable. The feeble brilliancy of the oxygen illumination is not sensibly modified, nor is that of carbon compounds, such as carbonic acid, carbonic oxide, etc. The fine bands of the nitrogen spectrum are not changed, except in the red and yellow portion. These colors become almost completely extinguished, or at least are replaced by a flat uniform tint, in which all traces of lines disappear. The lines in the more refrangible region remain intact.

The hydrogen lines keep sensibly their normal appearance, but by employing a sufficiently powerful magnet, at the moment of excitation a very brilliant line appears, which is due to sodium, doubtless obtained from the surrounding glass. This line vanishes as if by magic when the current is interrupted, to reappear again, however, for some time, as often as the electric flow is established. Eventually it loses intensity, and it becomes necessary to allow the tube several minutes of repose before the line can be caused to appear. It shows itself also in nitrogen tubes, and in those containing carbonic and hydrochloric acid.

The protochloride of tin, crystallized and dry, but bihydrated, offers remarkable phenomena of dissociation under the magnetic influence. Normally the spectrum is pale, and shows a few of the green chlorine lines; but as soon as the magnet is excited, two characteristic bands of hydrogen, the red and blue, appear, which remain as long as the magnetization exists, and return with the same indefinitely. M. Chautard attributes this to the momentary separation of the elements of the water of the salt, due to the considerable resistance opposed to the passage of the induced current during the magnetization.

M. Chautard's investigations are still in progress, and doubtless further novel and interesting results remain to be adduced. The phenomena noted are remarkable, and will attract the close attention of chemists and physicists generally.

The Poughkeepsie wire again "Kiss for Keys" "Da" was the artist.

The Operator.

PUBLISHED BY

WILLIAMS & BENNETT

Volume IV. - - - Whole No. 40.

NEW YORK, OCTOBER 1, 1875

TO OPERATORS.

The Operator has now the great satisfaction of any telegrapher, published in the United States, and we are desirous of making it more useful, and for that additional value, send to subscribers fifty handsome visiting or address cards to each new subscriber for the year. The cards are printed on fine card stock. The cost of these cards will nearly equal the price of a year's subscription. If ordered separately, \$5.00 will be charged in all cases, being compensated by the cash or Post Office order.

THE MISFORTUNES OF THE NEW CABLE COMPANY.

It seems as though the Direct cable Company was destined not to be without its share of the misfortunes that beset nearly all new enterprises. It is only a short time since we were told that the cable had been completed in good working order, and would be open for business early in August. On the very eve of this announcement the cable gave way, and the "Faraday" was called upon to again traverse her old ground, find the break and repair it.

On the 15th of September, the necessary repairs having been made and everything arranged, the company threw open its doors, and informed the public that they had a new and direct cable by means of which they could communicate with their friends across the ocean, and receive a reply in from ten to twenty minutes. On the strength of this the Western Union Telegraph Company opened a new branch of their office at 14 Broad street, making it a cable office, and in addition to this they will now receive cable messages at all of the prominent hotels throughout the city.

September 28th, the Direct Cable Company again closed its doors, the cable having been broken (it is supposed by some fishing smacks) between Nova Scotia and New Foundland, a point that had been perfect for fifteen months. Nothing remains but to make the necessary repairs as soon as possible. The "Faraday" has sailed for the point named, and will use all possible haste to repair the injured cable. This last misfortune bears upon the company with double rigor, as their business was in the highest degree prosperous, and compliments were flowing in upon them from every business quarter in regard to their service.

One day last week the manager exhibited the record of a message which had arrived from London in three minutes, and sent to its destination in one minute more. The London time of transmission was 4.55 P.M., and it is received in New York at 4.58 P.M. (London time.)

Taking advantage of this last misfortune of the Direct Cable Co., the Anglo-American Co. have raised their rates to \$1.00 (gold) per word, and although there are rumors to the effect that this is the result of an arrangement between the two companies, these rumors are thought to be without foundation. At all events it is to be hoped that the new company will be enabled to resume business at once, and that this will be their last misfortune.

THE TELEGRAPHER'S BALL.

The amusing affair for Monday, September 20, to arrange for the coming "Telegraphers' Ball," was rather poorly attended, and was consequently adjourned to meet at Eagle's saloon, No. 6 Bond street, on Monday evening next, October 6, up to 6 P.M., when the meeting will adjourn to No. 6 Vesey street, up stairs, rooms 3 and 4.

The subscription list is being very widely circulated, and up to the present writing there are ninety six subscribers. It is thought the number will reach one hundred and fifty before the next meeting is held. It is very desirable that as many as possible shall attend, as business of vital importance to the success of the undertaking will be transacted, such as the election of officers, &c.

To insure success it is necessary, in the first place, to have good officers, men that will push it through with a strong determination to make it a success. The Ball last year met with unusual success, and reflects great credit upon those who were at the head of it. We notice that most of the old names appear upon the present list, which is a good augury.

If the rest of the boys will lend a helping hand, there is no reason why it should not be the ball of the season. We hope to see good men placed on the different committees, and would respectfully suggest that there be more decorations placed in the hall than there were at the last ball.

THE NEW CABLE FROM PUNTA RASA TO KEY WEST.

On Saturday last the telegraph steamship "Professor Morse," now at Key West, commenced to make arrangements for laying the new cable between Punta Rasa, Fla., on the Mexican Gulf, and the island of Key West. A reporter called on Dr. Norvin Green, vice president of the International Telegraph Company, the owners of the above mentioned vessel, to gain further particulars on the subject. The Western Union Telegraph Company hold a controlling interest in the shares of the company in question, and Dr. Green is also vice president of the Western Union. The following statement was given by him to the reporter:

The cable to be laid by the Professor Morse is 126 miles in length, from Punta Rasa, Fla., the terminus where the Havana cable connects with the land lines, and Key West, which we call a way station. The steamship in question left London in the end of June, calling on her way across the Atlantic at Fayal to coal, and arriving at Key West on the 25th of July last, in the midst of the yellow fever epidemic. The services of twenty-five extra men were required to handle the cable, but the International Ocean Company did not think it safe to expose the officers and crew not only to the epidemic, but to contact with the people living in the midst of its ravages. As a measure of safety, therefore, the Professor Morse was ordered up north, to Port Royal, S. C., which port she left on the 14th, reaching Key West on the 19th inst.

THE THREE HAVANA CABLES.

Three cables have been laid between Havana and Key West, the first in 1867, now entirely abandoned. The second in 1870 has been working well till lately, and will be grappled for and repaired shortly by the Professor Morse. The third, or 1873 cable, is in good condition. When the present Punta Rasa and Key West Cable is laid, and the second Havana and Key West one

repaired, the system between these latter points will be duplicated, as it has been with the West Indian system to Demerara and other points. Beyond Demerara the cables are open for public business to Para, and from thence to Pernambuco, communicating with the Brazilian telegraph system, and also with the Brazilian cable across the Atlantic. Thus there is a perfect telegraphic circle between Europe and North and South America. For the past three weeks we have been running steam vessels (weather permitting) between Punta Rasa and Key West.

THE NEW CABLE.

The cable that is about to be laid is not of the ordinary character, being a compromise between the deep sea and shore end cable. The main body of the cable weighs four tons a mile and the shore end twelve tons. It was made by the India Rubber and Gutta Percha Company, at Silvertown, London, and has been shipped in three separate tanks filled with water. Our manager at Key West, who is an excellent electrician, is on board, also an English Electrician sent out to us by Sir Samuel Canning.

The first thing to be done in the matter is the placing of the heavy shore ends. Two or three days will be employed at Punta Rasa in laying four miles, and six or eight days at Key West in laying about six miles. These shore ends have to be laid by flat bottomed scows, and, being very heavy cargo, none of them can carry more than a mile's length over the reefs. The cable has, therefore, to be laid in sections and new joints made. The weight of the 126 miles of cable is upward of 600 tons. The Professor Morse is a first-class steamship, admirably adapted for her work, fully equipped for paying out or grappling cables, and is the only vessel of her kind in the United States.

The Gold and Stock Telegraph Company.

The annual meeting of the Gold and Stock Telegraph Company was held September 28, at the company's offices, in the building of the Western Union Telegraph Company, corner Broadway and Dey streets. No official statement of earnings and liabilities was given to the public.

The Board of Directors elected for the following year was William Orton, N. Green, T. R. Edison, J. H. Bancker, Marshall Lefferts, A. B. Cornell, H. R. Pierson, J. B. Prescott and Augustus Schell. The inspectors were C. Livingston, J. H. Fisher and S. M. Taylor. Mr. Marshall Lefferts was re-elected president.

The Annual Meeting of the Telegrapher's Association.

The annual meeting of the Telegrapher's Mutual Benefit Association will be held on Wednesday, November 10, 1875, at 7.30 P.M., at the general office of the Western Union Telegraph Co., corner Broadway and Dey street, New York.

A full attendance is desired and should be had. Let those who cannot be present be represented by delegates or by letter, so that a full expression of the views of the members may be given, and the interests of the Association advanced.

Oney Gaglin.

Those of our readers who remember the many humorous articles which appeared in THE OPERATOR in its earlier days over the signature of "Oney Gaglin," will be pleased to learn that we have again secured the services of that gentleman, and they may expect to hear from him often in that "Gaglin" way which "Oney" belongs to him. The first of his new series appears in another column.

Another Post Office Nuisance.

The Atlantic and Pacific Telegraph Company improved yesterday, by erecting in Park Row, some gigantic poles for their own use, and the inconvenience of the public. One, on the northeast corner of the sidewalk belonging to the new Post Office, is fifty feet in height, three feet of it being buried in the ground, some twenty inches in diameter at the base, and sustains forty-one wires. One nearly opposite is of the same proportions. The most singular point in reference to the establishment of these additional nuisances in an already obstructed thoroughfare, is that advantage was taken of the absence of the Post Office authorities on Sunday to dig up a portion of the sidewalk appertaining to a government building, and coolly erect thereon such an impediment to travel, utterly ignoring the rights of ownership, and obtaining possession of the ground without even the faintest pretense of asking permission for its occupation. The Post Office people present at the building yesterday were decidedly of the opinion that the telegraph pole in question will have to be removed forthwith, unless consent for its retention can be procured.—*New York Herald*, Sept. 26.

The above sounds as if the *Herald* had been seen by the "New York Underground Telegraph Company," who tried to engineer a bill through the Legislature, last winter, to compel all telegraph companies to run their wires underground through New York city.

The Way they Talk.

The following is from one of our lady subscribers:

"Please renew our subscription for another year, and greatly oblige. We do not wish to miss one number of our *favorite paper*, and our old subscription must, by this time, have nearly expired. With many kind wishes, and hoping success may attend your every effort, we remain very truly yours,

N. M. C."

PERSONAL.

Master Willie Crichlow officiates at Toco, Fla.

Wanted, the address of Prof. K. V. S. Randolph, supposed to be in Florida. Please send to this office.

Howard L. Moule is agent for the C. and M. L. S. R. R. at Alleyton, Mich.

R. H. Morris is in New Jersey taking a rest after the summer campaign.

F. C. Lacey, of the Lehigh Valley R. R. Co., Wyalusing, Pa., has been transferred to Towanda, Pa., office of the same company.

Mr. C. V. Parker, of N. Y. C. R. R. office, Albany, N. Y., has been transferred to that company's office in the Grand Central Depot, N. Y. City.

C. V. Hiess, the well known snakist, is manager, of Palotka, Fla., office. He is ably assisted by Geo. Mundee, formerly of Tallahassee, Fla.

The return boat race between Merrill and Thomas did not come off owing to the inclemency of the weather. Meanwhile the "Cap" has been transferred to Duxbury, so the whole thing is "off."

S. L. Griffin, our "all night" chief, has been appointed chief operator of the eastern wires in the Western Union main office here. "Grif" is a solid man—nothing snide about him.

J. Fletcher Knapp, of the Senate telegraph office, Washington, D. C., is in Fort Madison, Iowa, engaged in oiling the machinery of the Republican party.

Captain George Eitemiller, of Texas, the man who lost his grip, has turned up in Hartford, Conn. He is night report operator there vice William T. Stone, left the service.

Will Mr. Chas. E. Arnold, formerly of the Albany, N. Y., W. U. office, please communicate with his old friend, Jara Sane; address known; anxious to hear from him.

F. W. Gregory has charge of the northern circuit

vice Samuel H. Edwards, left the service. "Greg" makes a model chief. Like the rest of the operators we think a good deal of "Greg;" indeed, he commands respect by his gentlemanly deportment.

Mr. J. H. Johnson, of 812 6th avenue, attended the New York State convention of the Young Men's Christian Union Association, held at Newburg, N. Y., last week. He was a delegate from New York City.

A. W. Thomas, who has served the company faithfully, as an operator at Sanderson, Fla., for a number of years, has resigned to engage in other business. Master Johnny Hammerly, a youth of considerable ability, takes his place.

Bob Martin, as expert an operator as ever handled a key, is subbing in Hartford for Johnny Boyle. Bob is rather modest about his telegraphic ability, but the man who can "salt" him has not yet come to the surface.

John Wright, of the Western Union office, New Haven, who was represented in our account of the rifle match as being Brooklyn's champion, objects to that distinguished honor. It is quite evident that John is not a Beecherite, and we take it all back, and make the correction by saying that the gentleman worthily represented the Nutmeg State.

CHANGES.

Tom Carter has been transferred from Augusta, Ga., to Charleston, S. C.

Joe Hurley, from this office, is working Tom Carter's job as night chief, in Augusta, Ga.

Mr. J. Horn, from Charleston, S. C., is on our night force.

C. F. Hutchinson has been appointed "all night" chief at the W. U. main office, vice Griffen, transferred to the day force.

J. P. Kohler has been transferred from the Cotton Exchange to the main office, and assigned to duty on the short wires.

C. H. Thomas has been transferred to Duxbury, Mass. Charles is known to the boys by the appellation of "Cap," he having been at one time skipper of a whaling vessel.

Frank T. Viles has been transferred from South Framingham, Mass., to the Superintendent's office of the B. and A. railroad, Boston, where he is now doing night duty.

Austin W. Parsons, operator at St. P. and P. R. R. depot, St. Anthony, Minn., has left that place and come to N. Y. to manipulate on the N. Y. Central. Mr. L. E. Norton (a promising youth) has relieved Mr. Parsons.

Misses Emery, Saulsbury, Nunan and Carrie Breier have been transferred from the city lines, and work Montreal, Saratoga, Troy and No. 11 West, respectively. Misses Maguire and Whithorn occasionally help out on the Western way wires.

Mr. George A. Halbert, who for the past two years has been working for the Atlantic and Pacific Telegraph Co., at 198 Broadway, in this city, has been appointed manager of their office at Buffalo, N. Y. George having the endorsement of many friends as a good fellow and able man, justly deserves and has their best wishes for a long life of success and prosperity.

We are sorry to learn that Billy Huntoon, of White River Junction, Vt., has been obliged to give up his position as manager of the W. U. Telegraph office, and also his express office, on account of sciatic rheumatism. He has long been in the service, and is highly esteemed by the officers and operators in general. Ed. N. Dutton, "D," takes the position of manager, and Frank Stevens, "U," has been appointed express agent. Two better men could hardly have been found. We wish them success.

CORRESPONDENCE.

Practising for the Centennial by Moonlight.

PORTLAND, ME., Sept. 23, 1875.

To the Editor of The Operator:

Some one must keep up the reputation of the telegraphic fraternity of the United States and appear at the centennial as the champion, and who should it be but a Gagin?

We are all humping over our keys every day; all are confident of victory, but Gagin is ahead. Rand is smart and very patient, but he's too fat, and can only send thirty-five words a minute. Bryant is too thin, and his sending only reaches the rheostat, although he puts his whole weight on the key. Preble is game, but he uses up instruments too fast; we can't keep him supplied; therefore he will lose. Malone smiles confidently, but he's too long waisted. He's got it in him, but when his dots get out they are too long, and his dashes are like Shaw's grocery bills; therefore he will be distanced. Kilmartin (the Duke) keeps quiet, and I expect he will be second, as he is investing largely in Dodd's Nerve and taking a bath every day. Stanford and Kettles are ten words a minute behind us, and I am practicing night and day.

Mrs. G. said if I didn't intend to do anything evenings but practice fast sending, I better go into the barn chamber where I wouldn't disturb anybody. Mrs. G. is very sensitive to disturbance of any kind. I don't know as she will realize that I came up here out of pity to her; I can hardly realize it myself, but I did—that is I did come up into the barn chamber. She was here about 0 o'clock to see how I was getting on, and to charge me not to smoke or strike a match. Such an unnecessary charge! As if common courtesy at least would not forbid my smoking in the presence of a ton of dried herbs and last years hay! A look of mingled indignation and reproach was my only reply. This touched her I think, for she softly inquired "didn't I think if I filed down the screws a little and gave the key more play it would work easier?"

I told her that was all she knew about it; but I felt sorry in a minute, for she asked me who promised to mend the pump handle and salt down that pork soon as he got home from the office, hey? Then she went down stairs. If there is anything on earth that quenches a man's ambition and retards his onward march to fame it is a broken pump handle and pork needing salting down.

When she came in I was making fifty words a minute, but this little episode played the dickens with my nerves, and brought me down to thirty-five. This was depressing, but before ten I had made up for it—more than that, I had sent two hundred average messages in less than one hour. This was an undoubted fact, for I had begun at nine o'clock with a pile of more than two hundred messages, and after going through with two hundred of them I consulted my watch. The hour hand was plumb upon the figure ten, I could see that plainly in the moonlight. Two hundred messages in an hour! What would the boys say to that? What would become of Stanford and Kettles and Mrs. G.? Would she have the effrontery to say after this that the Gagin talent was left in the tanyard? Nons Verrons. I came down stairs, they went off like pistols under my tread they "squeaked and gibbered," but what of that! Two hundred messages in an hour!

My steps were courageous. Leander's steps when he went over Hell's Point was nothing to it. The steps of any of those historical fellows when they went over anything, was nothing to it. The reader can supply instances for himself. I was "blown up" once in a steamer. I was reading my history at the time. The last I saw of that history it was going up and met me coming down. I wasn't sorry to see

it going up, I don't know when I have had such serene satisfaction as to feel assured that history was going up instead of coming down.

But to return. I went down stairs and onward to that sacred retreat of innocence, Mrs. G.'s chamber. "Then slum, crest, sweet heart," I said, apostrophizing that lady in my finest melo-dramatic style. "In deepest unconsciousness that the partner of thy bosom has in one short hour become famous—the cynosure of all eyes, as it were." It would have helped the figure and encouraged me to proceed, had I been the cynosure of at least one pair of eyes, but Mrs. G.'s eagle eyes were hid in slumbersome depths.

Dispensing with the figurative, I tried the literal and practical. I coughed gently to announce my presence, she stirred faintly. "Are you choking? What time is it?"

"Just ten. I can send two hundred messages an hour! Two hundred! What will the boys say to that?"

"You're in a nightmare—wake up, wake up."

"Why, my dear, I am up and dressed. Two hundred an hour! I began at nine, and it's just now ten. If you don't believe it here's the watch for proof."

"The watch for proof? Just ten o'clock? Oney Gagin you are out of your head. Why I sat up myself till half past ten, and have slept all of an hour since. Where have you been?" said with an expression unusually sardonic. Mrs. G. was now up in end "gorgonizing me with a stony British stare."

"Mrs. G. will you listen to reason? You left me in the barn chamber sending at the rate of fifty words a minute, on an air line. The latest official returns from that chamber are two hundred an hour! That beats Bryants Pond and Dresden Mills. I'll challenge the world, hurrah!"

"For mercy's sake, Oney, don't get up a disturbance at this hour of the night, in this little room; think of the neighbors."

"The neighbors, oh yes, ever of them I'm fondly dreaming, and as to this little room, if it's too small to admit of any great truth or any new dispensation, I'll do as the people of Rhode Island had to do when Giant went down there—I'll stand on the outside and cheer."

With an aggrieved but far from hopeless expression, I turned my back upon her, struck a match, and compared my watch with the little clock on the mantle. The hour hand of my watch was still on the figure ten, while the clock on the mantle pointed to the hour of twelve. The clock was ticking, the watch was not. Evident but crushing inference—the watch had stopped at ten o'clock, and instead of sending two hundred messages in one hour, the feat had occupied me nearly three full hours.

In each individual's life, at some time or other, comes a study but silent epoch that teaches him what manner of man he is. I felt that mine had come. I shall never be too grateful to the providence that carried Mrs. G.'s head back upon her pillow and closed her eyes during that fateful comparison of time keepers.

That watch and I went out together. I merely remarked to Mrs. G. as I left, that I guessed I'd see to that pump handle now that I was up and felt like it; I might not feel so much like it again.

ONEY GAGIN

P. S. You mustn't publish my challenge.

Albany Personals.

ALBANY, N. Y., Sept. 29, 1875.

To the Editor of The Operator:

"Ralph" and "Rufus" of this office have slung so much ink for your paper of late that there is naught left for me but a few personal items, and little of that nature. Let's see; there's Charles V. Parker, he has left the "Da" (Union Depot) office in this city, and gone to N. Y. to pound brass in the Grand

Central Depot office. Good luck to you, Charley.

Henry Moss, of the same office, has been promoted to the position of secretary for W. A. Graves, Superintendent of N. Y. C. R. R. telegraph. That's good; give us your list on that, Hank.

Charley Shelley, of our office, and G. F. Smith, of the A. and P. have been devoting most of their "off-nights" this summer to rowing. A few evenings since they were challenged by a couple of book keepers to a race on the course. They accepted, and while preparing to start one of the book keepers was heard to remark that they could beat them with their feet. This did not discourage the telegraphers; they "adjusted line," struck a good "balance," and pulled through without a "break." Not so with the book keepers; they soon found they needed both hands and feet, and are now trying to make their ledger balance minus five dollars on the day book for oysters, &c., for the party. "Rah" for the telegraphers.

And Winter is coming. Where, oh where is our heater! As yet there has been nothing done towards heating our operating room. But the Autumn winds blow just the same, and unless something is done soon the custom of wearing overcoats while on duty will be observed as it was last winter when our steam heater was on a strike. Never mind, boys, good excuse if you are getting *sushed*; open your key and say its so *chimy* here this morning I can't write! "Smiling John" of the Saratoga wire still has for his motto "Rush me if you can." Have that "pickled," John.

This is the latest *bum* made by one of our force. Jas. J. Conegen & Co., N. Y., should have been Jas. J. Cone, Genesee, N. Y. That's rich; still "Mac" thinks it was a put up job. "Qa qa."

We are glad to see that THE OPERATOR still lives. It is a ways welcome here, and you would think so if you could see every one go down in their pants pocket for six cents the moment Charley King opens that large bundle. May those bundles never cease to come. "30."

N. Y. Z.

Autumn—The Trial of Speed—Personals.

BOSTON, September 25.

To the Editor of The Operator:

The days are growing shorter, and the nights longer and colder, and the most enjoyable season of the year, to my thinking, has arrived. Poets may chin about "Spring, Spring, gentle Spring," if they choose; so long as people know it is only sentimental gosh over an antiquated fiction imported from the old world, but which never had an existence in this climate, their productions on the subject of Spring do no harm. On the contrary, when set to the music of a waltz, they are really agreeable. But it is Autumn that brings us the beautiful days when the sky is a deeper blue and the air clearer and more invigorating than at any other time of the year. It is Autumn that brings us the cool frosty nights when we appreciate as at no other time the luxury of one more little snooze in our warm beds, before getting up of a morning; and it is Autumn that brings us the peaches, apples, luscious pears, grapes and other fruits, which make us forget for a time, in their enjoyment, that this is a vale of tears, a world full of misery and woe, and that we are miserable sinners, crawling betwixt Heaven and Earth, coming we know not whence and going we know not whither. Therefore I say, bully for Autumn. Methinks I hear Wilson's "O give us a rest," and a general howl of "Go hire a hall." But do I mind these little annoyances? No! Ask Jerry. He knows how it is himself.

I mentioned in my last letter, that a trial of speed was on the tapis between the rival candidates for the office championship, Messrs. Stanford and Kettles. That trial occurred on Monday, the 20th inst., on a single wire between Boston and Portland. As

a trial of speed it was unimportant, but as a trial of skill in shortening and abbreviating to the utmost possible extent, and as an illustration of the perfect understanding which may be attained between the sender and receiver, it was a great success. The matter transmitted consisted of the first 106 messages of the day's business with Portland in the order in which they were originally sent. At 1 o'clock P.M. Mr. Stanford commenced, and at 2 P.M. he was nearly through his 106th message. A few minutes later Mr. Kettles started, but was stopped by the call of "time" on his 102d message. Mr. D. C. Shaw, of Portland, did the receiving for both parties, and "put it down" in a legible manner, as certified by manager Livermore, with but three breaks to each sender. Manager Livermore acted as referee at Portland, and Mr. P. J. McMahon, at Boston, and give it as their opinion that the contest was an entirely square and satisfactory one.

The result was a complete surprise to nearly every one here, and will be so to the many friends of Mr. Kettles who knew him years ago, and who will be inclined to think he has lost some of that "soonest" he once possessed. It is the impression here that, while Stanford evidently did not under-rate his opponent but did his level best, Kettles, on the contrary, did overrate his own powers and became a victim (\$10 worth) of his over confidence. This trial, however, is generally considered an unsatisfactory one as regards speed, and there is now a general feeling that the controversy can only be settled in a satisfactory manner by a trial on solid matter, which will admit of no abbreviation. We hope the gentlemen will arrange such a trial at once and have the question who is the "boss" disposed of.

In connection with this subject it may be well to add that a very serious "bull" was made between Boston and Portland a few days since, the result of which might have been disastrous to some one, but for the fact that it was an error which put a largely increased profit into the pocket of the sender, being an increase in a corn order on a rising market. But it points a moral just the same. One of the most lamentable effects of this fast sending mania lies in the pernicious example it sets for the aspiring, but often inexperienced operators, on the way wires—not to mention those of the same class in the larger offices. Many of these young gentlemen, having become possessed with the insane idea that they can "send fast" and also with the perfectly idiotic supposition that it is "Morse" that they send, are rendering themselves most unmitigated nuisances. It is to be hoped that this epidemic may be stayed in its fatal course, or at least confined in its ravages within narrow limits. I firmly believe that nothing so shatters the nerves of an operator, nothing so gradually undermines and "chews up" his vitality, in short, utterly wrecks his mental and physical powers, as receiving bad Morse. I have often wondered if that wasn't one of the causes which sent poor old "Mike" Sherman to an asylum. There are several individuals I wot of who are as yet only mildly "off," who will fetch up at the same institution some day.

Mr. H. J. Pettengill, our "all night man," is, I regret to say, lying seriously ill of typhoid fever. During his absence the duties of that position devolve upon Mr. Grandy.

Mr. E. F. Leighton, our night manager, returns from a vacation of ten days. During his absence Mr. J. W. Duxbury, assistant day chief, has officiated as night manager. "Dx" has had a long and varied experience, having studied medicine four years at Bowdoin college, where he incidentally picked up telegraphing, and afterwards deserted the profession for which he had studied, to serve as an operator in the army. After the war he brought up in Boston, where he has since remained. He has al-

ways a fund of amusing anecdotes with which to beguile a dull hour, and a more genial or popular old boy than "Dux" it would be difficult to find.

Mr. J. H. Clark, of "DB" office, (218 Devonshire) was, on the 14th inst., united in the holy bonds of matrimony with one of the fairest and most accomplished daughters of the pine tree state, at Augusta, Me. The young couple have our unanimous congratulations and best wishes for a long and happy wedded life.

Miss Ella M. Kite, one of the finest lady operators in New England, has taken a position in the ladies department at 109 State street.

Miss Nellie M. Allen is away on a month's vacation at her home in Groton, Conn., Mrs. Howard acting as her substitute during her absence.

Mr. C. G. Pond is away on a vacation down east, Mr. W. C. Black, from Calais, Me., acting as his "sub." This winds me up for the present. J. S.

Another Change—A New "Quad."

CHICAGO, Sept. 27, 1875.

To the Editor of The Operator:

Another change we have to note in this office, one which proves satisfactory to the night force, who are the parties most concerned in the matter, and which we think will be of general benefit all around. An order has been issued declaring that seven hours is to be considered as constituting a night's work, any excess being credited to the men, and any deficiency to be debited to them, the noon hour to be worked as usual each other day, but credit being given on their time for the same. The new arrangement gives general satisfaction to the night men, and all that we have interrogated seem to feel that it is better than the old system. We have the ring just the same, and men are relieved in turn as usual. Four of them are off each Sunday night, this being deducted from the extra time. There are twenty-one regular night men with a good sized force of extra men, needed to properly handle the business, which is heavy. The extra men are dismissed as soon as the business slacks up which generally begins to ease off about eight or nine o'clock, when the bulk of day offices are closed.

We have noticed for the last month nearly, that Ed. Whitford and an extra man on one side, and W. C. Long and Jack Martin, (whom, by the way, has been hitched lately to one of Chicago's fair daughters,) on the other side of one of our quadruplex tables at work on the "quad." Upon looking at the books, we find Whitford's side marked, or rather ornamented with his marks, which being translated, read "Buffalo," "Thru," "City." Upon the side occupied by Messrs. Long and Martin we see signs that their time is occupied in exchanging business with Detroit. The instruments look like "quad" instruments, which indeed they are. We ask either of them "how she works?" The reply invariably is "splendid," "tip-top," "bally" or "fine," as the case may be. Then we are informed, by one of them, that the "quad" is not that one gotten up by either Edison or Dr. Nicholson, but one originated by Assistant Manager F. W. Jones of our office. They further inform us that Mr. Jones has been experimenting for some time—in fact since the Electrical Society was formed last spring—to perfect some ideas of his own on "quadruplexation," (that's original.) The fact is, Chicago works duplex with Detroit—also with Buffalo—and Detroit works duplex with Buffalo, all on one wire, and each side works as clear as a bell, without interference from the other side. The circuit on the bridge arrangement was 9,000 ohms, but by Mr. Jones' arrangement the circuit is only about 4,500, and the magnetic margins are greater. His first efforts were directed to duplexing the "Stark method of dual (wonder if that is good to eat!) transmission," with

out using reversed currents. This was accomplished, to work a distance of 150 miles, but beyond this distance the static discharge of line made "hugs" too lively. He had Stark's relays differentially wound, and also devised a very simple key system, more effective than Stark's, for sending a certain quantity of battery to line with one key, and doubling the amount with the other key. One singular fact is that Jones' "quad" can be used with the other systems, and can be worked with either Edison's or Nicholson's "quads" at the other end of the line.

The latest accession to our force is F. C. Prescott, lately of St. Louis, a nephew of G. P. Prescott, company electrician in New York. Tom Knox took a leave of absence a while ago; he also took something else—a wife—in the person of Miss Isadore—there, I've lost the memorandum, and can't give the name after all. S. PEX.

Who is Jolbert?

PHILADELPHIA, Sept 25.

My first letter to you caused such a sensation here that with your permission I shall try again. The statements contained in that communication were indorsed by every one, except those whom it affected, and even they admitted that nothing but facts were stated. It set the "Plumes" all in a flutter, while the good men all agreed that it was just the thing. At present I shall let the subject rest, but intend at an early day to still further probe it.

Who is "Jolbert" was the question with everybody for a couple of days after your paper appeared. Everyone accused everybody else of being that personage; this one was sure it was so and so, the other fellow thought it was not his style, and so on till the subject exhausted itself, and the world was none the wiser who this Jolbert was. It was strange to be right among them to hear how *one* was talked about. Everyone had his own idea as to who it was, and few agreed upon the same person. Nearly every operator in the city was suggested. It was in the Western Union office that the exchange of opinion was most free. I tried to note down each one's saying correctly, but in the hurry may have got them a little mixed; being a writer of nothing but facts, I am willing to admit that much for truth's sake. Following will be found the ideas and opinions as gleaned during the excitement: The first to open the discussion was Julian Eaves, who boldly declared it was Loughrey that done it. He was quickly followed by Pusey, who declared it was Buffalo Bill Morse. Doc Bradley said it was Joe Greens, while Bob Meiers thought it was Charley Hall. Jerry Rea, I've Godfrey and Curly Jones agreed that it was Anderson—and no one else—that done it, in revenge for having to receive a message from an office not on his own wire. Ed Duffield blamed it on Mark Buckwell; four or five—among whom were Schotte and Monroe—laid it to Wheatland, of the city line. Volrath gave it out quietly that Ed Deery was the man. Another of the day force accused one of the night force of it, and went so far as to say that Brady Lyndall treated this part of the "Owl Gang" to sundry beers so as he would mention Brady's escape from Philadelphia. It was finally accepted and believed, on a suggestion from the third story clerks' room, that the authorship lay between Bill Woods and Frank Johnson of the A. and P., but many are in doubt yet, one thing, however, is certain, that Jim Sailer was actually seen plucking hands with "Woody" the next day after he was suggested as the possible writer, and "Max" was seen to speak to him also. If these two things can be proven, then the identity is established, for this is evidence indisputable. Having to answer a call enjoin wire, I missed the rest. The foregoing is a fair specimen. Not being accustomed to "writing for the newspa-

pers," it is needless to say that I felt in great danger during the debate. I feared some injury, so I fortified myself with an extra lunch and two cups of coffee from Beecher (our caterer) that day. Everything is all right now, their wrath having cooled off. I fear no danger. I wish you would tell your agent—that good looking young man at one of the branch offices—to bring the paper to us as soon as he gets it. It was late these last couple of issues; perhaps it is your fault in not sending them promptly; anyhow, let us have the paper on time. JOLBERT.

Defective Cables—Preparations for a Heavy Business—Personals.

WASHINGTON, D. C., Sept. 27, 1875.

To the Editor of The Operator:

With cooler weather, all who have been away on vacation have returned to their desks, and things are as usual.

The cables connecting the wires of the W. U. to the capitol were so defective that they have been taken up, and will probably be replaced by something more substantial.

Preparations are being made for a heavy business here this Winter. All kinds of rumors are afloat as to who and what the force will consist of, although an immediate increase of more than one or two is not probable. *On dit* that Jennings of New York makes his *debut* here as a "day force" about the 1st of October.

Capt. Whitney has returned from his two week's visit East.

Louis Klotz, of the S. and A., has returned from a trip to Germany with his father. He is looking well, has gained about thirty-five pounds, and speaks in glowing terms of the Vaterland. He rode from Potsdam to Berlin with Kaiser William, and took in all the sights of the principal German and Austrian cities. He says Dutch girls in Germany are away ahead of Dutch girls in Washington, and beer only three cents a stovepipe!

Hotchkiss and Kanode, who were badly poisoned with poison oak, are getting pretty well over the effects of it, though they were both laid up for a week.

J. Ephraim Story has shaved those blonde whiskers off, and now bears a wonderful facial resemblance to a certain prominent Brooklyn divine. Story does not seem at all flattered by it, either.

Jim Halley, of Cheyenne, who has been paying a visit to his family here, left for the West on Saturday.

C. W. Ross, chief operator at Columbus, Ohio, and W. J. Bodell, operator at Fortress Monroe, dropped in last week.

Connor has finished soldering wires between this city and Baltimore, and the galvanometer shows that something has been done sure. Connor and his party are now at work building new lines between Baltimore and Philadelphia.

Frank D. Squires has resigned his position as operator at the Fire-Alarm office, and been succeeded by A. S. Richards.

Humors.

To the Editor of The Operator:

The following incident happened not many blocks from your present office, and can be vouched for. A gentleman entered the office and handed in a message to St. Louis, if I remember right, and a two dollar bill. The operator in charge of the office, as was his custom, read the message aloud to make sure he had it right, and then gave the customer his change. The gentleman picked up his change and message, putting them in his pocket, and started for the door. This rather astonished our good brother, for as the case then stood he was in pocket a dollar and a half. Being a strict member of the Y. M. C. A., however, his conscience would not per-

mit him to take a mean advantage of the stranger, as he publicly called the gentleman's attention to the fact that it was a holiday (on week days) when people mailed telegrams sent to leave a copy with the operator. The gentleman said, "certainly,"—but the fact was he thought all that was necessary was for the operator to read the message, and it was sent. Now, Mr. Editor, where does your duplex, quid pro quo come in?

Again, a gentleman received a city message from the "Cotton Exchange." Careful looking through the directory failed to find mention of such an institution. But you and I, Mr. Editor, might find no difficulty in guessing "Cotton Exchange." This was from a big hotel to box of the Pennsylvania coal region, now struggling on Broadway. QZ.

The Hartford Times is responsible for the following: A good story is told at the expense of some New York telegraphers. They had heard that the "Great Eitemiller" was to begin work at Hartford, on Monday night last, and put up a job on him. Knowing his remarkable skill as an operator, and his perfect repose in his own abilities, the word was silly sent over the wires during the day, and when the night report was begun at six o'clock, the quickest sender that 197 Broadway could furnish was at the table determined to give Eity all he could attend to. The fast operator done his prettiest, waiting in vain for a break, but nine o'clock came, and every station but Hartford had grumbled at the hard work, forty words a minute being a speed rarely encountered. When the "copy" gave out after three hours of hot work, the inquiry all along the line was "who's on at Hartford?" It so happened that Mr. Eitemiller was not expected here until Tuesday, and that Mr. Bob Martin, who had worked the New York wire from 5 A. M. to 6 P. M., and who had a perfect right to be tired, was receiving the report. So when he answered these questions with his "sig," the clapping of the New Yorkers was intense. Mr. Eitemiller is on hand and ready for them, and we not hesitate to say that Mr. Martin is also.

The New York sender referred to in the above is Mr. Falco t.—ED.

A Joke Worth \$157.50.

Denver, Colorado, gave an instance of a joke being carried too far. It was perpetrated years ago, but only lately came to light in the public press. Some time after the Atlantic cable had been established, a telegraph operator at Denver sent the following dispatch:

To the Emperor Napoleon, Garden of the Tuileries, Paris, France:

General Galigni will send you to the session of Italy in France. Please let Balmain alone.

Three months supposed to elapse, some fish in the Danube river, and stop there, as the station gives out a general rumor relating to the emperor's jokes. By some hook or crook the dispatch went on, dived under the ocean and came up smiling in the garden of the Tuileries in France. The emperor on the reception by Napoleon III. (then first consul). A fact is known as that the Emperor did not (or) in it, and the fraudulent operator was hunted up, and obliged to pay a bill of \$157.50 in gold for his little joke. That operator was entirely satisfied with the result at Sedan.

A Distinguished Arrival.

Oh, where are the friends of my youth?

(Gone to the poor house.)

Then let the electric fluid flow.

HANS COWAN.

The Honorable Hans Cowan, from Columbus, Ohio, is in town, looking well. Sam Edwards will probably give him a job in the opposition office.

Inviolability of Telegraphic Messages.

The prosecution instituted against a Newry shipbroker for inducing a telegraph clerk, by pecuniary bribes, to give him information respecting the arrival of foreign vessels, has excited, from its novelty, considerable attention. From what transpired before the Newry Bench on Monday, it seems that the accused, who occupies a respectable position as a general grocer as well as shipbroker, put himself in communication with a telegraph clerk, named Whittaker, with the object of inducing him to intercept and disclose certain messages. After some time the boy was induced to enter upon this very dishonest and dangerous course for a consideration of half a crown for every message disclosed. Because of some complaints made to the local Postmaster, suspicions were excited, and the collusion between the clerk and shipbroker detected. The former was summarily dismissed, and a prosecution entered against the latter for inducing Whittaker to commit a misdemeanor. The prisoner was committed for trial at the Downpatrick Assizes, bail being accepted for his appearance. It is only right and proper that the Post Office authorities should take the most stringent measures against the persons implicated in these proceedings. Telegraph officials are entrusted with a highly responsible duty. In point of fact nearly every man who sends away a message makes them his confidants. Upon their strict honesty and thorough trustworthiness a great deal often depends. If confidence were once shaken in the integrity of telegraph officials the usefulness of the system would be in a great measure destroyed. The inviolability of a message is not to be outraged with impunity, if at all possible, in even a single case. Hence we view with satisfaction the steps which the Post Office authorities have taken. The fact that the Newry prosecution is the first that has been instituted, at least in Ireland, under an Act passed for the protection of the senders and receivers of telegrams shows unmistakably how trustworthy the officials as a body are. It is conclusive testimony of the efficient and faithful manner in which they perform their duties. Nothing could be more creditable to the body than the fact that the Newry prosecution has been the first. For the sake of all parties let us trust it will be the last.—*The Derry (Ireland) Journal*.

Collodion Films.

In the July number of the *Journal de Physique* M. Gripon calls attention to the numerous useful properties of films of collodion in physical operations. There are few bodies that are electrified more easily. The films, stretched on wooden or metallic frames, are thin, transparent and polished like glass; they polarize light. The thickness (as determined in one case by the displacement of interference fringes) was between 8-1000 and 9-1000 of a mm. Collodion gives very beautiful coloration when covering a metal. The membranes are as diathermanous, as rock salt for luminous heat of a lamp or a candle; they allow 0.91 of incident heat to pass; but with obscure heat, from a blackened cube of water—e.g., the diathermanous power is diminished, and they are less diathermanous the less the temperature of the source. Polarising piles are made by stretching collodion films on zinc frames and piling these up. The heat is thrown on the surface at an angle of 33° 30'. Such piles can be advantageously used instead of the mica piles, in study of radiant heat. Then very delicate vibrating membranes can be made of collodion, and these have various uses in acoustics. The vibrations can be seen by applying to the vertical membrane a small pendulum consisting of a pith ball suspended by a cocoon fibre.

Rowing.

"As the woods and sunshine invite the birds, so the smooth and stainless water summons us. 'Put your hand upon the oar,' says Charon, in the old play, to Bacchus, and you shall hear the sweetest songs." The doors of the boat house swing softly open, and the slender wherry, like a water snake, steals silently into her element." Notwithstanding the above the race between Catlin and Kearney is still in abeyance. Hurry up, gentlemen, and do something to cheer us during the melancholy days.

CANADIAN TELEGRAPHY.—The construction of a telegraph line between Prince Edward Island, Magellan Island and Bird Rocks is in contemplation by the Canadian Government. The line, when completed, is expected to be of great service in saving life, and assisting shipwrecked vessels.

DOMESTIC NOTES.

The A. and P. Tel. Co. have leased the old Western Union main office building, 145 Broadway, for five years, at a rental of \$14,000 per year.

It was from the City line, going to Chicopee, Mass., which is evidence that "H." was thinking of Mr. Greeley's advice to go West. The message was sent to Chicopee.

Miss "Do" received this message: "Do not sing until you hear from me," which of course shows a musical talent of a high order. The check, however, gave the whole thing away, and "not sing" became "nothing."

Charles H. Vawter, agent and operator at Sumner, Ills., while attempting to board a moving freight train, August 14, received injuries which resulted in his death two days later. Mr. Vawter held Certificate No. 2007, issued April 25, 1873, by the Telegrapher's Mutual Benefit Association.

Alf. Conner, the popular station agent at Manchester, Vt., has jumped off. He was married on Wednesday, to one of Rutland's fair daughters, Miss Mary L. Verder, and the cold, chilly blasts of the coming winter have ceased to inspire him with the dread that poor bachelors experience.

It was addressed to Geyer and read "Stop at Johns and bring," &c. A city artist rendered it to Greer, "Stop at Johnsons and bring," &c. When spoken to about it he coolly remarked, "You send your own business in future." Upon which he received the following rejoinder "Agreed, provided you get some one to receive yours for you."

There is a report to the effect that the organizers of the National Telegraph Company had notified their corporators to receive their subscription money back, as they had—since the late California bank trouble—decided to abandon the enterprise. Of course all this gives heart to the other telegraph companies.

The express agent at Gloversville, N. Y., recently received a box addressed to W. U. Tel., Gloversville, N. Y., which remained undelivered for some time. Upon being asked why he did not deliver it he replied that he could find no such man. "What man?" inquired his interrogator. "Man by the name of W. Utel," replied the express agent. Superintendent Watson should make a note of this.

BIRTHS.

At the W. U. Hotel, North Sydney, C. B., on Thursday, 23rd inst., the wife of J. C. Upham, Esq., of a daughter. It's evident Jim hasn't lost his grip.

At New York, Sept. 29, to H. W. Pope, Supt. A. D. T. Co., a son, usual weight.

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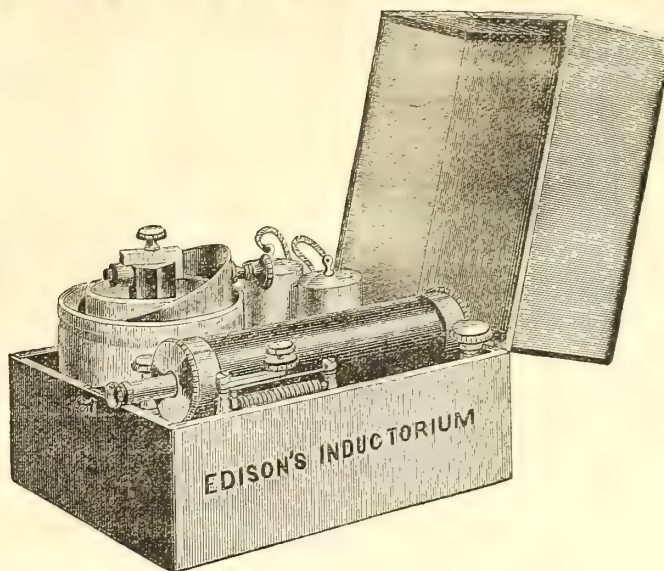
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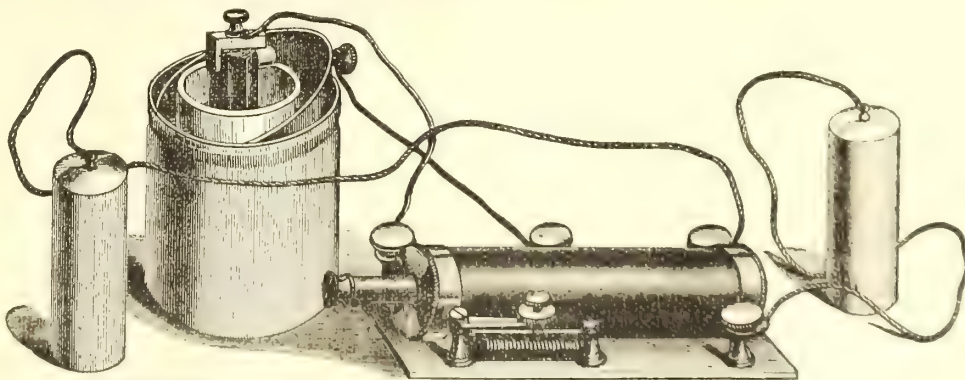


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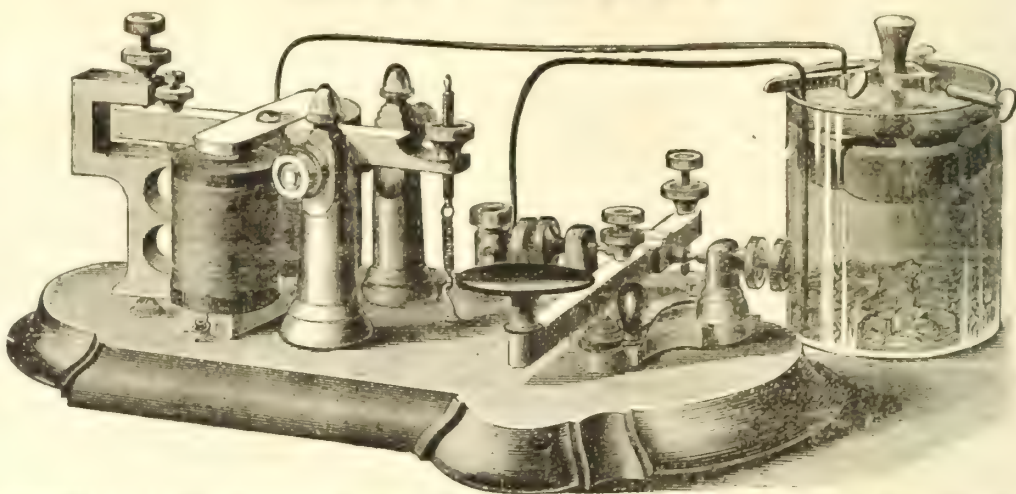
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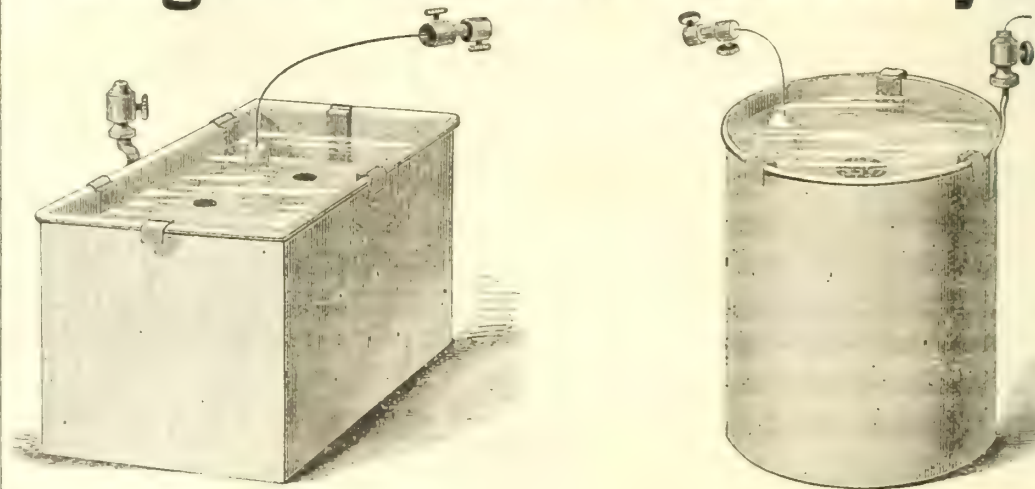
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The Telegraph Operators' Journal.

VOL. IV.

NEW YORK, OCTOBER 15, 1875.

No. 4

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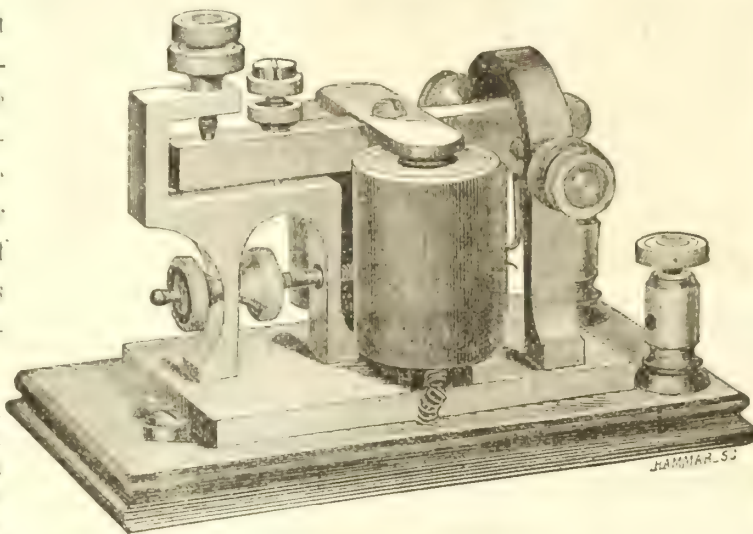
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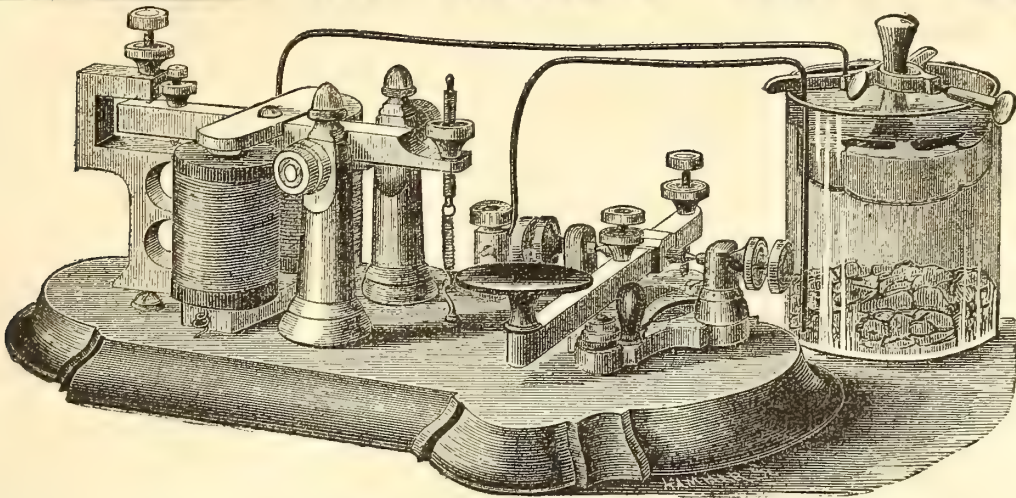
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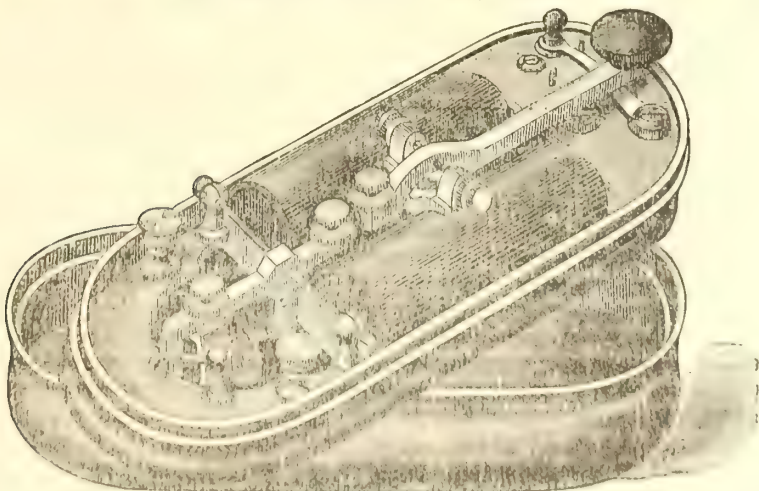
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Wires and Sea.

BY D. C. SHAW.

Thoughts suggested while working in the French Cable office at Duxbury, Mass., during the siege of Paris.

Whispering wires,

Answering sea,

You seem to be singing together; tell me

The words of your sweet, wild song.

What cry is that from the shadowy past?

What voice, O sea, finds expression at last,

Through the beat of your surges strong?

O, tremulous wires, do the tidings you bear,

Melt into wandering melody, where

The echoes loiter along.

Grieving wires,

Murmuring sea,

You seem to be wailing together; tell me

What is your dire dismay?

Do the deep sea cables disturb its breast?

For human life is a fierce unrest,

And the cable its strange highway.

Wrapped in the lightning, gladness and woe,

Swifter than heart pulses, come and go

Under the ocean gray.

Whispering wires,

Answering sea,

You seem to be soothing each other; soothe me

Away from this haunting pain;

O, waves of the sea, O, wires of the land,

You bring me a voice, tender, rapturous, grand,

And the sweet past is mine once again.

It pants in the dim, swelling wave as it stops

To show on its bosom the fringed drops,

That join in the hushed refrain.

Cackling wires,

Howling sea,

You seem to be croaking together; tell me

What is it all about?

By jingo, you keep up a deuce of a din—

Do the outside wires want to get in,

Or the cable want to get out?

Whimpering wires,

Blubbing sea,

You seem to be snivelling together; tell me

What does the whole thing mean?

Have you tasted the cables, old ocean, and roar

For a fresh one, or maybe the wires on shore

Are sighing to see you so green.

Riotous wires,

Blustering sea,

You seem to be sputtering together; tell me

Does the mad sea threaten the cable?

"When my trained sea serpent gets down your way

He'll snap up the mast of you in a day,

And so I will turn the tables."

Disputative wires,

Argumentative sea,

You seem hobnobbing together; tell me

What is the point you're at?

If it's "whose defense?" the Standard of B.

And if upon this point you don't agree,

You'll get yourselves into a muddle.

Hyacinth wires,

Barren, unfruitful sea,

You seem to be snuggly together; tell me

Is everything with you O K?

How do you like it, for as you've said

Is it kinder to me, or kinder to me?

Well, I can't say with any degree

Some of the most beautiful and popular sea-stories from the Atlantic and the Pacific have been a secret for many years.

Western Union Telegraph Company.

The above named company held a meeting on Monday, Oct. 12, in its new building on Broadway, the annual report being then submitted to the stockholders. The directors for the coming year were elected, and Mr. William Orton still remains the President of the corporation. The only change in names was the substitution of Mr. John Duff for Mr. Mumford, deceased. Mr. Duff has been identified with the Union Pacific Railroad for a number of years, and is reported to represent the Boston interest in Western Union. The inspectors of the election were Messrs. George B. Prescott, Leonard Cox and William Arnold, and the following ticket was declared elected: William Orton, James H. Banker, Alonzo B. Cornell, Harrison Dankee, Norvin Green, Joseph Harper, Edwin D. Morgan, Augustus Schell, W. R. Shorn, C. Vanderbilt, Frank Work, Chester W. Chapin, Wilson G. Hunt, David Jones, C. Livingston, James Miliken, John Duff, Levi P. Morton, O. H. Palmer, George M. Pullman, E. S. Sanford, John Steward, Moses Taylor, Daniel Torrance, W. H. Vanderbilt, W. B. Vermilye, E. S. Wesley, D. C. Mills, E. D. Worcester.

ANNUAL REPORT.

The following is the report to the stockholders for the fiscal year ending June 30, 1875:

The gross receipts for the year from all sources, excepting proceeds of bonds, were \$9,564,574 60; the gross expenses were \$6,335,414 77 the difference, \$3,229,159 83, being net profit. Compared with the preceding fiscal year there was an increase in the gross receipts of \$301,920 62, a decrease in the expenses of \$420,319 06, and an increase in the net profit of \$722,239 68. There were in operation at the end of the year 72,833 miles of line, 179,294 miles of wire and 6,565 offices. The number of messages transmitted during the year was 17,153,710, being an increase of \$24,454 over the preceding year. The capital stock of the Company is \$41,073,410, of which the company owns and now has in the treasury \$7,285,935. The difference, \$33,787 475, is the amount of the capital stock outstanding, which has been increased \$1,800 during the year by the issue of eighteen shares in exchange for the stock of companies leased to the Western Union and which have small amounts of capital outstanding on which interest is paid as rental. The bonded debt of the company, July 1, 1874, was \$5,946,900, of which \$1,498,000 is the seven per cent gold building bonds, and \$4,448,900 seven per cent currency bonds, which mature November 1, 1875.

To provide for the redemption of the bonds falling due in November, 1875, it was decided in January last to issue sterling bonds bearing six per cent interest in gold, to an amount which would produce about \$5,000,000 in currency, and arrangements were made for the sale of these bonds at 95, which it was confidently expected, would result in disposing of the entire loan in Europe. But after purchasing these bonds, amounting to \$1,001,160, the parties with whom the arrangement had been made availed themselves of an option in the agreement to cancel it. Subsequently, it was decided to offer the remainder of the issue in seven per cent currency bonds at 95, and the whole amount was subscribed for within a few days. The entire issue of

NEW BONDS WILL AMOUNT TO \$5,001,160

and the product to \$4,751,102 in currency, of which sum \$4,448,900 will be applied, so far as it has not been done already to the redemption of the bonds amounting to that sum, which mature November 1, next, and the balance, \$302,202, will go to income account to restore a portion of the disbursements on that account or the new building in excess of the loan. As the bonds maturing on the 1st of November are now in process of redemption and the subscriptions to the new bonds are payable at the op-

tion of the subscriber at any time before November 1, it is difficult to state the exact condition of the bonded debt account.

THE INTERNATIONAL OCEAN TELEGRAPH COMPANY.

The capital stock of this company is \$1,500,000, represented by 6,500 shares of preferred stock, entitled to dividends at the rate of 15 per cent per annum, and 8,500 shares of common stock. The Western Union Company own \$499,900 of the preferred stock, and \$248,500 of the common stock. Total, \$978,400.

In the last annual report reference was made to the possible necessity of putting down a new cable between Key West and Punta Rasa. That necessity became so pressing that in March last Mr. Orton proceeded to London mainly for the purpose of contracting for the construction and shipment of a cable.

A satisfactory contract for its manufacture was made with the India Rubber Gutta Percha and Telegraph Works Company of Silvertown, according to specifications prepared by Sir Samuel Canning, under whose supervision the work was carried on, and in June last the completed cable was put on board the International Ocean Telegraph Company's steamer Professor Morse, which had been ordered to London for the purpose of receiving it. The steamer sailed direct for Key West, but during her voyage the yellow fever broke out at that and other gulf ports, and, believing it unsafe to permit the vessel to go to Key West at that time, she was met on her arrival at the outer bar by an agent of the company with instructions to proceed to Port Royal, where she remained until a few days ago.

THE PUNTA ROSA CABLE,

which had been interrupted several times during the summer, gave out entirely a few weeks ago, but while this is being written information has been received that the Morse has successfully laid the new cable, which is working perfectly, and that the telegraphic communication with Key West and Havana has been restored. A fault, however, has been discovered in the cable of 1869 between Key West and Havana.

MONEY TRANSFER SERVICE.

The number of telegraphic money orders received during the year was 34,853. The amount transferred thereby was \$1,963,247 06, and the revenue according to the company was \$87,219 40, being an increase over the revenue received during the preceding year of \$6,889 54, or about eight and a half per cent.

SOME TELEGRAPHIC STATISTICS.

From 1867 to 1875 the extent of line has increased from 46,270 to 72,833 miles, and the wires from 85,290 to 179,294 miles, being an increase of 57 per cent of line and 110 per cent of wire. The number of offices and stations has increased from 2,565, to 6,565, equal to 156 per cent. During the same time the number of messages has increased 192 per cent, the rates of tolls has decreased 51 per cent, and the gross receipts have increased 46 per cent. The average cost per message, during the same time, has been reduced from 67 to 37 cents, or about 45 per cent. The increase of 192 per cent in the number of messages transmitted annually, while the mileage of wire has been increased but 110 per cent, is explained by the fact that the number of messages transmitted per mile of wire has been increased 41 per cent.

THE TARIFF OF MESSAGE RATES.

No general change has been made in message rates during the year. In February last, pursuant to previous public announcement, the rates on the lines of the Atlantic and Pacific Telegraph Company between Boston, Albany and Washington and intermediate stations were reduced to a uniform rate of twenty-five cents. A corresponding reduc-

tion was made by this company, which took effect the same day. These rates were finally abandoned. The fact that at the end of nine years, during which time the number of messages has increased 192 per cent, and the average cost per message has been reduced 45 per cent, it now costs this company an average of thirty seven cents per message for more than 17,000,000 messages, must be accepted as conclusive proof that a company possessing small facilities compared with ours cannot realize profit from transmitting messages at the rate of twenty-five cents each.

THE ATLANTIC CABLES.

During the year covered by this report the United States Direct Cable Company has continued its efforts to establish telegraphic communication by an independent line between Great Britain and the United States, and although these efforts were not successful until after the close of the fiscal year the completion of the new line had been accomplished before the preparation of this report commenced. In May last the Anglo-American Telegraph Company, owning three cables between Valencia, Ireland, and Sidney, N. S., via Newfoundland, and one between Falmouth, England, via Brest, France, and the Island of St. Pierre and Duxbury, Mass., reduced the rate for transatlantic messages from four shillings to two shillings sterling per word. When the United States Direct Company's cable was opened for business in September last the rate was fixed by both companies at one shilling (twenty-five cents coin) per word.

During the period of about four months, while the two shilling rate was in force, the number of cable messages increased about thirty five per cent over the number transmitted during the corresponding period of the preceding year. The shilling rate had been in operation less than a month when the new cable failed; thereupon the Anglo-American Company restored the four shilling rate, in force prior to the reduction which it had made in May last. As the Western Union Company has been severely censured on account of the advance in cable rates, justice seems to require this statement of facts. This company has no more power to fix the rate for a cable message to Europe than we have to fix the rate for passage by steamer across the Atlantic.

IMPROVED APPARATUS.

As the assertion has been frequently published that this company does not control the patents for the quadruplex apparatus, it is proper to state here that the process known by that name was developed by Thomas A. Edison, assisted by George B. Prescott, the electrician of the company, while Edison was fulfilling an agreement made with me to perfect improvements upon the Stearn's duplex apparatus, owned by this company; and that subsequently, a written contract for the sale of the quadruplex patents to this company was executed by both inventors, and the sum of \$10,000 paid thereon. It is true that in the face of these facts one of the parties deliberately undertook to deprive the company of that which he had sold to it, by giving subsequently a pretended title to another party; but the right of this company to own and control exclusively that which it has purchased in good faith and partly paid for will not, we think, be seriously disputed to the extent of a legal trial. On account of the conflicting claims which have been set up no patents covering the quadruplex have yet been issued in this country; but it is believed that such issue must take place during the coming season and the control by this company of the quadruplex method be thereby made complete.

This report was signed by the President, William Orton, and was adopted by the meeting.

In Memorium.

"What is social company,
But a babbling summer stream?
What our wise philosophy,
But the glancing of a dream?"

* * * * *

Truer words outspoken

Ne'er came from poet's muse—
My own sad thoughts betoken
The significance they infuse.

Night's shadows rest o'er me,
Fanned by loneliness profound—
Naught left but the sounder-key,
And I alone "at the table round."

The grand council scattered
Broadcast throughout the land,
The Summer's glory shattered
By fates omniscient hand.

"Sir Kt. Patrick" first departed,
With winged steps of haste,
Then our NOBLE chieftain started,
As forerunner of the CHASE!

(Whether their rapid advances
Predict a halt at Washington,
Dependeth much on circumstances
We are told by a 'n OWEN one.)

Three braves yet linger sadly,
Their tents pitched 'side HATHORN,
Indulging in potations madly—
From water—to appease their wrath on!

Men of muscle, warriors three,
Left, foresooth, to perish, or live unseen;
Big medicine man, immortal "THE(e),"
Who is next in transformation scene?

"Avant! faint hearted son,
As thou asketh so I will.
Know then, tomorrow our race is run—
Flee thou to yonder sheltering HILL."

* * * * *

Night's shadows rest o'er me,
Fanned by loneliness profound—
Naught left by the sounder key,
And I alone "at the table round."

ABAD S. KAPE.

RECENT BRITISH PATENTS.

255. *Electric Signaling Apparatus*, B. P. Stockman, 3 Poets' Corner, Westminster, London:

This apparatus consists of a commutating key for sending two or more currents through the line each time the key is depressed, and also a receiving instrument in which a loop or single line of gold, platinum, or other non-magnetic metal is used.

4253. *Grapnels for raising Submarine Cables*, W. C. Johnson, Old Broad-street, London.—Dated 10th December, 1874.

The object of this invention is to cut the cable and to raise one end only. The shank is similar in form and size to that of a grapnel ordinarily used for recovering cables. At the base of the shank are formed strong deep tapering jaws preferably two in number; in each of these jaws is placed a hinged clip, capable of receiving the bight of the cable, the inner surfaces of which are roughened or grooved so as firmly to grip the interposed cable. A bolt of lead or other suitable material is placed under the clip so as to keep it in the best position for receiving the cable, and a steel spring keeps the sides of the clip pressed firmly against the cheeks of tapering jaws. The prongs are made wide at their base, so as to guide the cable into the before mentioned clip. Near one end of this clip is situated a V knife, which is similar in construction to that in ordinary cutting grapnels.

449. *Galvanic Batteries*, E. Tyer, Old street, Finsbury.—Dated 6th February, 1875.

This invention relates to cells of galvanic batteries, a single cell being a jar or vessel with grooves or lugs in its interior or notches in its sides, into which is slid a perforated slab of non conducting material to separate the two elements, and compound cells being formed in a box divided by permanent partitions into a number of cells, into each of which is slid a like perforated slab. In some cases the slab is clothed with paper or porous fabric. The chief object of the invention is simplicity of construction in a form which gives facility for cleansing all parts.

296. *Electric Apparatus*, F. Wirth, Frankfort-on-the-Main.—A communication from J. Lister, Vienna. Dated 28th January, 1875.

All batteries hitherto constructed, especially those which have to be transported, have the disadvantage that when they were charged they could not be hermetically closed, and that when the elements had to be lifted out a complicated mechanism was necessary. If such batteries were to be transported for some distance the several parts of them and the acid had to be packed in separate vessels. Elements that remain filled during the time when they are not employed consume metals and acids uselessly and are readily spoiled. All these disadvantages are avoided with this apparatus.

Preservation of Wood Telegraph Poles.

Tar is employed, but it is necessary to apply it hot, and to avoid boiling it too long, lest it should lose the essential oils, which alone aid it to penetrate the wood. The latter should be first considerably heated to remove humidity and to open the pores; the tar is then applied, and, penetrating it, forms a strongly resisting covering. One thick coating produces a very bad effect; it is necessary to apply several light coats, a process somewhat difficult and requiring practice. If this mode is not adopted, a covering will be simply laid over the surface of the wood, which will be separated by damp, and, being brittle, will be easily broken away. The fungus filaments would then be free to attack the wood, and destruction would take place almost as rapidly as if the tar had not been laid on. The process above described can hardly be carried out without special appliances. The best mode is first to heat the wood, then to immerse in a bath of tar, the whole of that portion to be placed in the ground, and to leave it in the bath for 24 hours at least. The tar should be heated to boiling point.

Carbonization has also been applied with very good results. By raising the wood to a sufficient temperature, coagulation takes place, and any dangerous spores are consumed. But it is better to burn the wood imperfectly than to carbonize it to such an extent as is usually done. When the burnt portion is too thick, it loses its cohesion, and becomes broken during transport, so that the wood is again exposed to the air. It is better to obtain a thin and uniform covering by soaking the wood in acidulated water (five parts of water and one of sulphuric acid) and heating it lightly without exposing it to the flames. The more acid is added to the water, the less heating will be required, and it is preferable to obtain a thoroughly solid coating, by heating it for a longer time, at a less elevated temperature. This method is all the more worthy of attention because the sulphuric acid penetrates the wood to a certain depth, and partially preserves it from the attacks of the fungus.

SPECIFIC INDUCTIVE POWER OF INSULANTS.—F. Rosetti holds that this power depends on a state of electric polarity, which the molecules of the body assume during the induction. This state of polarity is produced by the induction current which pre-

cedes the electric induction itself, and is transmitted across the non conductive mass by a *action in distance* between adjacent molecules. The formula of Ohm includes also the laws of condensers, and may be employed with advantage to determine the specific inductive power of insulators. In this manner the specific power of glass is found to be 3.45; of sperm-aceti, 2.18; of ebonite, 2.05; of sulphur, 1.81; that of air being taken as unity.

A Good Constant Battery.

A correspondent of the *Mechanics' Magazine* writes on the above subject as follows: For some years past I have suffered perpetual annoyance from the difficulty I found in keeping the battery used for controlling the transit clock in the observatory here in good working order. After a patient trial of Daniell, Leclanché and another recommended by a friend—all of which gave me a great deal of trouble—the first owing to the constant attention it required, the second by its provoking uncertainty—I almost despaired of finding a battery suited to my purpose, until, being in Edinburgh two months ago, I met with a new form of Daniell, which appears to me to make as good a constant battery as could be wished for my purpose; and as any time these last seven or eight years I should have cordially thanked any one who introduced me to such a one, I dare say there may be some few among your readers who may be glad to avail themselves of my experience.

This form of Daniell which I speak of was devised by Mr. Richie, the well known chronometer maker of Leith street, Edinburgh. He calls it the "balloon" cell, from the shape of an inverted glass vessel which forms part of it. It is far simpler than Sir W. Thompson's density Daniell (described by him in *Nature*, Vol. III., p. 350), a form which appears to me better suited to the laboratory of the experienced physicist. The advantages of Mr. Richie's arrangement are that the level of the liquid in the porous cell is always preserved, and a constant and gradual transference of sulphate of copper (with which the balloon is charged) takes place. The only attention required is to supply the "balloon" with sulphate of copper crystals—an operation easily performed—about once a month, if the battery is in constant action, such as controlling a clock. The strength of my battery seems to be at this moment precisely the same as when I set it in action six or seven weeks ago, and I am getting as strong a current with two of these cells as ten of the ordinary Daniell's use to give me at times when neglected, the zinc surface in the new form being about one fourth more. H. C. KEY.

The Way they Talk.

The Oprish arrived. Oh my! but it ish nice ash never vash before! Shust you put von hiddle baber round his pelly, und mine name on dop und send shust one year, und der 50 kards. Eh! your undershtand. W. P. P.

I send der monish.

Enclosed please find renewal of my subscription to your paper. Hope you will continue to meet with the success you deserve, and that it will not be long ere the OPERATOR will be able to pay us weekly visits. I for one would be willing to pay double the price to have you make a weekly paper of it. With best wishes, yours truly, E. C. P.

An important case has been tried in the Vice Admiralty Court of the Dominion of Canada, whereby the owners of a large timber ship, the *Clare*, have been condemned in costs and damages for injury done to a submarine cable crossing the river St. Lawrence, near Quebec, through the negligence of the persons in charge of her allowing her to drag her anchor over the cable.

The Operator.

PUBLISHED BY

WILLIAMS & BENNETT.

Volume IV. - - - Whole No. 41.

NEW YORK, OCTOBER 15, 1875

TO OPERATORS.

The *Operator* has the largest circulation of any telegraph paper published in the United States, but as we are desirous of further increasing it, we offer as an additional inducement to subscribe, **fifty handsome visiting or address cards** to every new subscriber for the year. The cost of printing, stationery, and postage. The cost of these cards would nearly equal the price of a year's subscription, if ordered separately. Subscriptions should in all cases be accompanied by the cash or a Post Office order.

In addition to the above we offer the following prizes for clubs.

For a club of 8 yearly subscribers we will give a first class induction coil.

For a club of 12 yearly subscribers, we will give a first class Morse Key, Western Union pattern.

For a club of 16 yearly subscribers, we will give a first-class Giant Sounder or a Learner's set.

For a club of 20 yearly subscribers, we will give a first-class Morse Key, Giant Sounder and one year's subscription to **THE OPERATOR** to the person sending the club.

For a club of 40 yearly subscribers we will give a good substantial American Silver Watch.

THE WESTERN UNION.

In another column we give a lengthy synopsis of the report recently submitted to the Board of Directors of the Western Union Company. As a whole, the report shows a decidedly satisfactory condition of affairs, and will be read with pleasure by those who have a direct pecuniary interest in the success of the Company. It shows that

The gross receipts for the year from all sources, excepting proceeds of bonds, were \$9,564,574 60; the gross expenses were \$5,335,414 77 the difference, \$3,229,159 83, being net profit. Compared with the preceding fiscal year there was an increase in the gross receipts of \$301,920 62, a decrease in the expenses of \$120,319 05, and an increase in the net profit of \$792,230 65. There were in operation at the end of the year 72,833 miles of line, 179,204 miles of wire and 6,565 offices. The number of messages transmitted during the year was 17,153,710, being an increase of \$21,154 over the preceding year. The capital stock of the Company is \$41,073,410, of which the company owns and now has in the treasury \$7,285,235. The difference, \$33,788,175, is the amount of the capital stock outstanding, which has been increased \$1,800 during the year by the issue of eighteen shares in exchange for the stock of companies leased to the Western Union and which have small amounts of capital outstanding on which interest is paid as rental. The bonded debt of the company, July 1, 1874, was \$5,946,000, of which \$1,493,000 is the seven per cent gold building bonds, and \$4,453,000 seven per cent currency bonds, which mature November 1, 1875.

From 1870 to 1875 the extent of line has increased from 46,270 to 72,833 miles, and the wires from 85,880 to 179,204 miles, being an increase of 57 per cent of line and 110 per cent of wire. The number of offices and stations has increased from 2,165 to 6,565, equal to 130 per cent. During the same time the number of messages has increased 132 per cent, the rates of tolls has decreased 54 per cent, and the gross receipts have increased 46 per cent. The average cost per message, during the same time, has been reduced from 67 to 37 cents, or about 45 per cent. The increase of 132 per cent in the number of messages transmitted annually, while the mileage of wire has been increased but 110 per cent, is explained by the fact that the number of

messages transmitted per mile of wire has been increased 41 per cent.

No general change has been made in message rates during the year. In February last, pursuant to previous public announcement, the rates on the lines of the Atlantic and Pacific Telegraph Company between Boston, Albany and Washington and intermediate stations were reduced to a uniform rate of twenty five cents. A corresponding reduction was made by this company, which took effect the same day. These rates were finally abandoned. The fact that at the end of nine years, during which time the number of messages has increased 132 per cent, and the average cost per message has been reduced 45 per cent, it now costs this company an average of thirty seven cents per message for more than 17,000,000 messages, must be accepted as conclusive proof that a company possessing small facilities compared with ours cannot realize profit from transmitting messages at the rate of twenty five cents each.

In reference to the decreased cost of transmitting messages referred to above, it is only fair to state that it has been done mainly at the expense of the operators, for, while there has been no reduction of salaries among the old hands employed by the company in this and other large cities of the Union, wages have been systematically reduced in the smaller offices, and new hands are taken on only at diminished compensation. In telegraphy as in most other businesses, when those who have the management of large capital are seeking to curtail expenses, it would seem that the working man must inevitably be the first to feel the effect, and while we rejoice with the stockholders of the Western Union at the flattering prospects which open to them, we should be glad to know that their dividends had not been acquired at the expense of those who perform the more arduous labors of transmitting and receiving the business.

In many respects this report is replete with information that will be of interest to the profession especially, and we commend its careful perusal to the readers of **THE OPERATOR**.

ELECTRICITY'S LATEST TRIUMPH.

There was a very interesting exhibition of recent improvements and inventions in telegraphy at the Dominion Telegraph Company's office, Bradford, Ontario, one day last week.

One thing will be of especial interest to such of us as are musically inclined. "It consists," we are told, "of an apparatus by which musical sounds can be transmitted over telegraphic wires and every word and note be as distinctly heard at the end of the wire as at the place where the music originates," and further, when it is in proper working order it is claimed that with its aid "a concert at San Francisco can be heard as plainly in New York as at that place."

Byron was never, to our knowledge, accused of being a telegrapher, and yet he speaks of

"The dying night breeze harping o'er the hills,
Striking the *strings* of nature's rock and tree,
The best and earliest lyres (lars) of harmony,
With echo for their choros."

This wind-whistling-through-the-wires business was all very well while we had nothing better, but its song "in a voice of dolorous pitch" must now give way, it seems, to the more classic strains of the harp, guitar or piano, wafted through the air on the wings of the gentle breeze, "over the wire and far away." When we remember that

"Music hath power to soothe the savage,
To split a rock or burst a cabbage,"

we begin to realize that the telegraphic millennium is upon us; and already think we see indications that the "plug" and operator shall lie down together, and behold a little "College Graduate" shall lead them hand in hand.

When music shall have succeeded in

"Untwisting all the chains that tie

"The hidden soul of harmony,"

and transfiguring every telegraph office in the land into a modern terrestrial palace, instead of the old stereotype phrase "Take a grand dive off the dock," we shall hear a more reverential "Will brother Snifkins get up and play?"

And at the centennial next year how sublime the effect were "Yankee Doodle," rendered by a master hand, made to resound in every city, village and hamlet in the land! It would electrify the nation, and make a wooden man patriotic. And then the beautiful sight of 500,000 hats flung wildly in the air and a grand huzza of "Hail, Columbia! Happy land!" And all the visiting potentates would confess that once again Uncle Sam had whipped creation.

As the musician "always so near and yet so far" shall discourse "Spring, spring, beautiful spring," or "When thou'rt gone from my gaze like a beautiful star," "I'll still be true to thee," Matilda Jane, whom you've brought to "listen to the mocking bird," will remark in a voice, as sweet and musical as bright Apollo's lute,

"How sweetly sounds each mellow note

Beneath the moon's pale ray,

When dying zephyr's rise and float

Like lovers' sighs away!"

But another aspect of the case is not so inviting. For instance, if an organ grinder, an ignorant, noteless, timeless, tuneless fellow, should attempt to think he was an operator and proceed to grind out something which might be intended for "Captain Jinks," "The girl I left behind me," or "The Dead march in Saul," we should probably either have a dead organ grinder or else an indignation meeting with a "resolution" something like this—

"Music! Oh how faint, how weak,

Language fades before thy spell!

Why should feeling ever speak,

When thou can'st breathe her soul so well!

Friendships' balmy words may pain,

Love's are e'en more false than they—

Oh 'tis only music's strain

(A hand organ always excepted.)

Can sweetly soothe and not betray!"

Again, a man might make application for a transfer on the ground that, as Byron says,

"He heard, alas! no music of the spheres,

But an unhalloved, earthly sound of fiddling."

The invention is not, however, "in proper working order." This we regret; for if the inventor's gigantic intellect does not come to the rescue, and he talks afterward of the blighted prospects of an anxious life, we shall be compelled to say in the words of Addison's *Cato*,

"Talk not of comfort—'tis for lighter ills;

We will indulge our sorrow, and give way

To all the pangs and fury of despair."

It would be sad, indeed, if these fond illusions we have cherished should be allowed to pass into the "swallowing gulf of dark oblivion," or that "A dream so sweet, so long enjoyed,

Should be so sadly, cruelly destroyed."

But we hope the inventor, whose name we have not yet learned, will surmount every obstacle and speedily complete his "masheen," and that at an early day its sweet and melting strains shall be

heard abroad in the land; and we are sure that if such were the case

"Orpheus himself might hang his lyre
Upon the willows after this,
Nor henceforth impiously aspire
To lap the senses all in bliss.
For he who heard that thrilling strain,
Would find all other music vain.

As these are the "melancholy days," we deem an apology for the poetic character of this issue of THE OPERATOR entirely unnecessary. We know how it is ourselves. There must indeed be something electric in the influence of the atmosphere upon the minds of the operating fraternity, when so many of them are simultaneously possessed with the spirit of rhyme.

We hope our subscribers will excuse the delay in sending the cards offered as premiums; but the orders have been coming in so fast that it has been difficult to keep up with them, notwithstanding we have kept a press going for the past four weeks. Send along your subscriptions, boys, and in future we will be more prompt, even if we have to set another press to work.

We refer those of our readers who may have a mechanical turn of mind to the advertisement of Mr. Edward O. Chase in another column. His "Pantect" is a most ingenious mechanical device, and is well worthy of attention. "Nuf Ced."

A combination of circumstances has conspired to delay this issue of THE OPERATOR. We trust, however, that in future our readers will have no cause to complain.

The Sounder.

Now, boys, instead of going to church
On Sunday mornings, as I should,
Or roving off to fish for perch,
Or strolling through the shady wood,
I always fix my battery up,
And, when I've stowed my beans with lard on,
I go to washing jar and cup
And scouring zines for Grove and carbon.

My curses on this weekly pest
Were loud and deep last Sunday morning,
While crawling from my downy nest,
I got up as the day was dawning,
And hied me to the battery loft,
The dullest place in all creation;
I've thought so many a time and oft
While drudging through amalgamation.

By ten o'clock, or something past,
I had my stent set up all right;
The cups were full, the wires fast.
The zines all shining clear and bright:
Now, when I saw the job was done
And I was free to stay or go forth,
I loaded my tobacco gun,
And camped upon some straw, &c.

When weary with incessant labor
At sinewy toil, or office work,
We slip the oars to our neighbor
And, for a few brief moments shirk,
What's better—(though there is a type
Of folks who would call me a nunny)
What's better than to fill your pipe
And blow a cloud of Old Virginity?

I lay at length, with half closed eyes,
And gazed around the dim old garret,
Noting the heaps of old supplies,
For there was little else to stare at;

And looking, now and then, around
To view my work well nigh completed,
When, suddenly, I heard a sound
Close by the place where I was seated.

A worn out sounder lying near,
Begrimed with dirt and sadly rusted,
That once had charmed my listening ear
With ringing Morse, but now was busted
And thrown aside mid broken coke,
Old copper, and other useless matter;
This sounder now to life awoke,
Accosting me with wondrous clatter.

"You're quite a stranger, Tom," it said;
"I'm sure remember me you must;
Time has passed lightly o'er your head,
Though mine is now beneath the dust;
You still are toiling after pelf,
You eat and sleep and use your bacca;
While I am laid upon the shelf
Bereft of hope and friends and lacquer.

"Some service I have done the State
In days gone by—they know it, too;
I used to hum a lively gait
And make 'em scratch when I was new.
But now, when rusty, bent and lame,
I'm thrown aside with broken pots;
They'll throw you over just the same
When you get old and skip your dots.

"Ah me! what queer old times we've had—
That horrid relay *sparking* me,
And you were flirting just as bad
With Mary Ann, upon your knee;
Love's blind, they say—I cannot tell—
I know the magnet was a fool,
And as for you, 'ha, ha,'—Oh, well,
I never tell tales out of school.

"Time culls the ripe from every class;
And when too worn to stand the test
I went the way of all old brass,
For every dog—you know the rest;
'Twas too much fluid spoiled my use
And caused me oft to make a blunder,
Look out the same don't cook your goose
And burn your coils all asunder.

"Get spliced, my boy! Your great mistake
Has always been procrastination;
You're growing"—(here I tried to break
And end this noisy exhortation)
"Don't put it off until too late,
Nor wait for wealth—she'll help you win it;
Take warning, too, by my sad fate
And marry, Tom—*there's millions in it.*"

And here, my friends, I'll end this lay;
You all have read Lord Byron's story
How old Mazepa had his say
Surrounded by the dead and gory;
'Twas said the king went fast to sleep
While Zep his lengthy yarn was spinning,
So'd I, upon the rubbish heap,
While listening to the sounder's chinning.

CROPS.

And Still They Come.

A. Bellashier for A. Bell, Cashier, by "Br."

Chepkwell for Rockwell, by "Sw."

Path for south, by "G.H."

Vrauss for Strauss, by "No."

Ckss for class, by Williams of P office. "Hah ha!"

"O. I. C."

Our Canadian friends are not to be left in the lurch. Recently they rendered R. R. Dobell & Co. for Reid O. Bell & Co.

Human Nature and Unappreciated Poetry.

She went over the message, but he assured her that it "didn't come," then she repeated it, and he wanted to know what State "Dealuk" belonged to. She sent it very distinctly then, N. J.

"Repeat it quick," he shouted, if we may so express it.

She thought she would be able to finish it on the third attempt, but, when he asked her to go-ahead, "gkss," and rattled like a demon every time she attempted to tell him it was glass, she changed her mind.

Then "Crosspat h," as she mentally called him, suggested that she "procure a wheelbarrow and wheel that message down;" and after offering a few suggestions, and giving a little gratuitous advice, as is usually done under such circumstances, he left her in disgust, and calling up one of the other offices, declared that if that operator would send down for the message, and repeat it to him, he would confer a personal favor, which centuries of persistent gratitude could not repay, a favor which the ravages of time would never obliterate from the tablets of his memory; "for," he added, as a knockdown argument, "There was never such 'Morse' as that fellow uses heard since the creation of the world."

The referee remarked that perhaps he was not aware that the operator he had been working with was a lady, and believed, that if he had patience, she would "do finely," as the man said who was splitting hairs. And then he assured quarrelsome artist that the lady was very prepossessing in appearance, as pretty as a little picture. He knew it was a lie, but did it, he said, "just for luck, as it were."

The information had the effect of making the operator call the lady forthwith, and meekly request her to "please go ahead, period," and the last they heard was his remarking that he was at Coney Island, the evening before, and wandered along by the "sad sea waves," as they rattled over the shells of the ocean. "How superbly beautiful," he exclaimed, enthusiastically, "to behold the silver moonbeams stooping to kiss the dancing wavelots, their motion throwing off the beams in a flood of tremulous light; how sublime the effect, Evelina!"

But she doesn't appear to have sympathized with his poetic imagery, for at this point she asked him if "he took those fits often," which made him close his key with the force and determination that an angry man slams the door; and remarking to the operator who sat beside him something about those high built hopes that crush us by their fall, stalked off, and has never been on the wire since.

DOMESTIC NOTES.

The following dispatch recently passed through a telegraph office: "I beat you one year and brought four dollars, eighty seven cents. If you have not had it long enough, please keep it one year longer." To this delicate hint this answer was returned: "Had forgotten it, and hoped you had. Let her run another year."

One of the Editors of THE OPERATOR narrowly escaped a "coro-m sticking" on Broadway, one day last week, for daring to shake a bunch of "keys" at one of the lady operators.

The New York operators stand by their own paper. The *Telegraph* is not now allowed to stand in front of the new Western Union building, because no one would buy it. That's the 18th time.

BIRTHS.

On September 29, to Mr. J. W. Crouch P. W. and B. R. R. night operator at Perryville, Md., a ten pound boy. We congratulate J. C. on this addition to his family.

Scientific Courtship

Young Molly met Christopher down by the farm,
With his analysis
And his catalysis
And his dialysis.

What would he do there?
He came down to woo there,
He came down to sue there,
To bill and to coo there,
Not to fill all her soul with alarm.

O! Science, 'tis thus that a fair maid you win,
With parthenogenesis
And alterogenesis
And heterogenesis
And other such things;
For Love, he has wings,
And with him he brings
Full many such things
In the ears of fair maidens to din.

Young Christopher came with his finest brochures,
On trilobites
And throglydotes,
Theodolites
And such delights,
And he said, my dear, these are yours,
Yes, they're yours.
Love may come and love may go,
Science endures.

The heart is a stubborn thing,
And conical in shape;
A remnant which with us we bring
From our ancestral ape.
It drives the blood to Molly's cheeks,
She opens her ruby lips and speaks;
Her miral valve plays
In the midst of ways;
Her columnea carnea,
Gives her an idea
By the way that it acts;
And, accepting the facts,
She then and there agrees to become
The partner of his scientific home.

FOREIGN NOTES.

The observation was made by Dr. Haldat, in 1836, that when iron sand was inclosed in a brass tube closed at the ends with screw stoppers, the instrument could be magnetised by ordinary processes, and acquired and retained contrary poles at its two extremities. M. Jamin has been following this up and he has found that the polarity is considerably increased if the sand be compressed (with a hydraulic press, e.g.). He has exhibited to the French Academy two such bars, which would attract filings as well as pieces of good steel would of the same dimension. Here, then (he remarks), is a metal, which has no coercive force when it is continuous, but which acquires an amount of it as considerable as that of steel, when reduced to small discontinuous fragments, and these brought near each other by pressure. Is it not to this discontinuity that we must attribute the polarity observed, and is not this also the cause which explains the coercive force of steel? When matters are mixed with the iron sand that render the mass more homogeneous, it is not possible to give it the same polarity as before. Magnetic or diamagnetic substances, mixed with the sand, greatly alter the capacity of magnetization. The study of all these circumstances promises interesting results.

At a meeting of the Eastern Telegraph Company a few days ago, Mr. John Pender, M. P., stated that the various sections of the Eastern system, with the exception of a shore end of a short line at Lisbon which was undergoing repair, were in perfect work-

ing order. But of far greater importance, as affecting the future of submarine cable enterprise, was his announcement that the Suez and Aden section which was laid in comparatively warm water, had improved in insulation by no less than 38 per cent, and the other cables of the Eastern Company from 45 to 77 per cent, in insulation power, which is of course their chief element in estimating their capacity for the transmission of messages. Mr. Pender further stated that the cables longest laid have improved the most.

AUSTRALASIAN TELEGRAPHY.—With reference to a contract arranged on behalf of New Zealand and New South Wales for a telegraph cable between those colonies, it appears that in consideration of £5000 from New Zealand and £2500 from New South Wales, to be paid yearly for ten years, the Eastern Extension, Australasia, and China Telegraph Company (Limited) has undertaken to lay with the utmost despatch a cable between Sydney and some northern point as the middle island of New Zealand. The company undertakes that the tariff shall not exceed 7s.6d. for ten words, and 9d. for each additional word; and that on the messages averaging 200 per diem during any six months, the charges shall be reduced to 5s. for ten words, and 6d. per word beyond. The Telegraph Construction and Maintenance Company (Limited) has undertaken to manufacture the cable, and to provide the requisite capital. The Eastern Extension, Australasia, and China Telegraph Company (Limited) is about to issue 6 per cent debentures to the extent of £320,000.

Sir W. Thomas calls the British statute mile "that most meaningless of modern measures," and invariably means by mile the nautical mile, or the length of a minute of latitude in mean latitudes—6,073 feet. For approximate measurement it may be taken as 6,000 feet or 1,000 fathoms. He calls the sea the very safest place in which a submarine cable can be kept, and asserts that sea water is the best preservative of gutta-percha. No case of decay of gutta-percha in water has ever been known.

For the preservation of wood by means of copper salts, says M. Rottier, cupric acetate and indigo, though good, are too expensive. Heating wood after impregnation with copper sulphate does not give reliable results. Cachou can only be used under certain circumstances. Ammoniacal copper salts are, however, susceptible of very general application, and when applied, have more permanent effects than those of other copper salts.

J. M. Gauguin has arrived at the general conclusion that if the angle formed by the magnet and the bar is made to vary from zero to 180° the magnetization increases with the size of the angle. This law, however, does not hold good when the angle formed by the magnet and the bar exceeds 90°. It then decreases till a certain limit has been passed, which in the author's experiments, was near 120°.

In order to try the porosity of pure gutta-percha Mackintosh put upon the inner core some chemical substance, which upon contact with water changed color. This was then covered with gutta-percha and subjected to hydraulic pressure. Water in every case penetrated to the core under a pressure of 2 tons to the square inch.

Mr. Latimer Clark, telegrapher through both Atlantic Telegraph Cables with a battery formed in a lady's thin ble, and Mr. Collett said, "I have just sent my compliments to Dr. Gould of Cambridge, who is at Valentia, with a battery composed of a gun cap with a strip of zinc excited by a drop of water, the simple bulk of a tear."

M. J. Jamin has demonstrated that, in superposing laminae in any number or in any direction, the bundle contains the algebraic sum of the magnetisms

of its elements; but this is only true when the bundle is so long that it may be considered infinite.

A cable has been laid between Italy and the island of Sardinia. A concession of this cable is proposed to be acquired by the Eastern Telegraph Company (Limited).

Preparations have been made for connecting Panama with Peru and Chili by means of a cable laid along the Pacific coast.

At Pribram, in Bohemia, the Adalbert shaft of the silver and lead mines has reached the extraordinary depth of nearly 3,000 feet.

It is said that a diamond has the power of staying the attractive power of a magnet.

How Messages are Sent by the Ocean Cable.

The ocean telegraph operator taps the "key" as in a land telegraph, only it is a double key. It has two levers and knobs instead of one. The alphabet used is substantially the same as the Morse alphabet—that is, the different letters are represented by a combination of dashes and dots. For instance, suppose you want to write the word "boy." It would read like this: — — — — — B is one dash and three dots; O, two dashes; and Y, one dash, one dot, and three dashes. Now, in the land telegraph, the dashes and the dots would appear on the strip of paper at the other end of the line, which is unwound from a cylinder, and perforated by a pin at the end of the bar or armature. If the operator could read by sound, we would dispense with the sheet of paper, and read the message by the "click" of the armature as it is pulled down and let go by the electric magnet.

The cable operator, however, has neither of these advantages. There is no paper to perforate, no click of the armature, and no armature to click. The message is read by means of a moving flash of light upon a polished scale produced by the "reflection of a very small mirror which is placed within a mirror galvanometer," which is a small brass cylinder two or three inches in diameter, shaped like a spool or bobbin, composed of several hundred turns of small wire wound with silk to keep the metal from coming in contact. It is wound or coiled exactly like a bundle of new rope, a small hole being left in the centre about the size of a common wooden pencil. In the centre of this is suspended a very thin, delicate mirror about as large as a kernel of corn, with a correspondingly small magnet rigidly attached to the back of it. The whole weighs but little more than a grain, and is suspended by a single fibre of silk, much smaller than a human hair, and almost invisible. A narrow horizontal scale is placed within a darkened box two or three feet in front of the mirror, a narrow slit being cut in the centre of the scale to allow a ray of light to shine upon the mirror from a lamp placed behind said scale, the little mirror in turn reflecting the light back upon the scale. This spot of light upon the scale is the index by which all messages are read. The angle through which the ray moves is double that traversed by the mirror itself; and it is, therefore, really equivalent to an index four or six feet in length, without weight.

To the casual observer there is nothing but a thin ray of light, darting to the right and left with irregular rapidity; but to the trained eye of the operator every flash is replete with intelligence. Thus the word "boy," already alluded to, would be read in this way: One flash to the right and three to the left is B. Three to the right is O. One to the right, one to the left and two to the right Y, and so on. Long and constant practice makes the operators wonderfully expert in their profession, and enables them to read from the mirror as readily and as accurately as from a news paper.

CORRESPONDENCE.

Eastern Railway Gossip.

EASTERN R. R., October, 1875.

To the Editor of The Operator:

I have noticed a number of railroad wires spoken of in THE OPERATOR at different times, but never as yet have seen anything referring to Eastern R. R. strings, and I think they are worthy of it. The main line is 110 miles long, with twenty-four offices, fourteen of them night offices, making it a lively little string. I do not propose to give much description of mine or the working of it, as I am not prepared with the statistics at present time, but to touch a few of the brother operators.

H. N. Rowell, our Superintendent of Telegraph, is a whole souled, genial Vermont Yankee, and is respected by all his employees. Train despatcher T. H. Miles, formerly on the Lake Shore and Michigan Southern Railroad, has charge of the circuits; a friend to those who attend strictly to "biz," and a living terror to the shirks. Worthy friend V. P. H., who jerks lightning from Superintendent's office in Boston, finds it difficult to support the "fair haired milliner" he married while enjoying the position of "chief operator," that office having been discontinued since the happy event, per order. Little X just returned from the mountains gets fearfully puzzled and perplexed over the dubious manipulations of key by our "Old Maid" sister, Celia of "Cg."

"Perk," of Somerville, has but just recovered from the shock which Miss Haynes twenty-nine locusts caused to his nervous system some two months since. Brace up "Perk," better be grasshoppers, in the face, than small pox pits.

Miss Webb, of Salem, feels proud of her new office, which she has just taken possession of, and well she might. Good luck to you, Sallie. "Dg" office, one of the pleasantest on line, is run in good shape by Flora P., of "Old York," and is of course contented while the visits of "C" from Saco are constant and daily. He renders her untold assistance by reporting trains, but it wears on the "boy." After parting from her it is interesting to see how rapidly he strides to his room for the regular dose of morphine which throws him in that blissful state, "day dreams." O Flora, "Ever of thee," &c. Poor Kinny; I pity you; it is hard after rushing for passes, and obtaining the loan of a V, to be obliged to give up the intended vacation of a few days; but cheer up "old boy," you are the healthier for it. Sober men live long.

The reduction of 10 per cent on wages is said to have struck "Boss" operator Dodge in the stomach. He will be compelled to shoot his "plug" and sell his gold headed cane. Come Dodge, don't be blue; put cap after your sig. and be cheerful.

Chad Noble, fresh with laurels won at Saratoga, has come to sub for some of the boys while they take a vac. Before the boy could make any engagement he rushed to Portsmouth, and basked in the smiles of Minnie for one day. I tell you, boys, she is a charmer; but, money in his pocket if he would give her the slip. Ed Nutting finds that experience is a good but bitter teacher. His prying propensities were badly snubbed by his being obliged to take a rest for two weeks at his own expense, and speculate on the profits of meddling with the officials books. Time is short; must say G. M. More anon. Electrically yours, ROOSTER.

A Little Talk from Albany.

ALBANY, N. Y., October 11, 1875.

To the Editor of The Operator:

"Oh where are the friends of my youth?"

That sounds like Hank Cowan. Yes, 'tis him; he has been in our midst twice within the last two weeks. When last here he was on his way to Columbus, Ohio. New York hath no charms for him;

he says the boys have too much "racket" in the Bowery.

Les Bradley, a well known brass pounder, paid us a visit a few evenings since. N. C. Chase, of Philadelphia, was also among our distinguished visitors of late, he was on the home stretch from Saratoga, where he has been acting as chief operator the past season, and there's "Nuf Ced" when we say he is fully as pleasant to meet in person as in the columns of THE OPERATOR.

McAuliffe and his beaver have been off for a few days recreation in his native place, Binghamton. He comes back looking healthy, so does the beaver; it wasn't washed. In his absence the Rutland wires were taken care of by Fred L. Wellner, of Auburn, N. Y.

It has been reported that our operating room is to be heated this winter, but we have as yet seen no grounds for the truthfulness of this report. Two men with kits of tools under their arms were admitted to the operating room the other day. "Ah, now we will have the heater in;" "now we will have the thermometer above 'freezo';" "no more shivering now;" such were the remarks heard; but as the two men did some repairing to the speaking tubes, picked up their tools and went out, a chill came over the room at once. Some went for their overcoats, and others took their accustomed places on the sunny side of the room, while some few settled down to try "Col. Sellers" plan of imaginary heat.

Our assistant chief Rice, is laying off for a few days vacation in N. Y. and vicinity. We wish him a jolly good time, but it does seem rather lonely here without that smiling countenance and merry laugh of his. Oh, Seymour, why wilt thou leave us? Nobody resigns or gets bounced here; consequently items are scarce, so with this brief epistle I will say "n m in."

X. Y. Z.

A Funny Incident.

CHICAGO, October, 1875.

To the Editor of The Operator:

In my first letter to you I spoke of the peculiar phases of an operator's life while in this office, but I did not, by any means, enumerate all of them, nor should I care to do so. In this letter I will try and relate to you a funny incident in my life.

It happened in the South. We were rooming together and one of us was very sick, so much so that he could not walk, and had to have the daintiest of eatables, such as mush and milk, &c. Anyhow, the hotel, or its proprietor, notified us one morning that there was no mush and milk in the house, and that we had better send out and buy some, which we proceeded to do, and taking an account of stock found that we had the munificent sum of 25 cents, which we concluded to spend in "mush." So we called up the colored gentleman who did such chores, and with strict injunctions to hurry, gave him the two bits, and told him to buy that amount in mush. In the meantime we got our "chips" together, so that we could start a fire as soon as the colored gentleman made his appearance. Some three hours after this, when we had used a mild assortment of profane language, the "darkey" made his appearance, and to our interrogatories as to where he had been, he said, "Bin all over town, and fore to god, massa can't find a bit of mush." One of us proceeded to interview the landlord, who mildly informed us that we should have sent out and got cornmeal; that people in that town did not keep cooked victuals on hand. This shows you that a boy should never leave home too young, and that his parents (if he be not an orphan) should give him an insight into the mystery of the culinary art, so that if he were ever placed in the position we were, that he would know what to do.

And now a few words in regard to "Chicago correspondents." Some one in Philadelphia complains

of the number from Chicago. I have no doubt but what he has cause for complaint, but then if there are those in Philadelphia who wish to write let them do so, and it may be sought after as much as what is received from Chicago, and if their correspondence is interesting in course of time Chicago may be silenced. PECULIAR.

Mourning in the Quaker City.

PHILADELPHIA, October 5, 1875.

To the Editor of The Operator:

What is the matter with your Saratoga correspondent. We were all much disappointed at finding "Nuf Ced" was not "on deck." We swear by him here in Philadelphia, and we hope he has not deserted the standard. We look for him with anticipations of much pleasure in perusing his alwas well written sketches.

Our boys are lonely. The light which shed its beaming effulgence so benignantly upon the desert waste of "PC" has departed, vanished, eclipsed, skeddaddled. There is "weeping and wailing and gnashing of teeth" for the departed that returneth not. Pennock has left us, and the places that once knew him shall know him no more. He departed last Saturday about 3 P.M. to draw his pay, and has not since been seen. He leaves many creditors to mourn his loss, and as they place their hands on their wallets they sing

"I have a silent sorrow here."

One of our city line boys composed the following:

We had a little Pennock once,

Who had a noble head.

He borrowed all the stamps he could,

And drew his cash and fled—

Gone to meet his washerwoman.

We have but few changes to note here, our manager has been absent two weeks, and Chief Griffin has supplied his place very satisfactorily while Moyer has been acting chief. Hibberd has gone for two weeks, and his place is supplied by Mr. Eastlock.

Can anybody invent a "Quad" which will enable four different offices to use the same wire at the same time? There is a fine field for such an improvement here. Our Morse style wont admit of it although I heard four of our offices trying it this A.M. The last bull is "battery can" plate for "battery complete." Yours Truly, NICK O'TINE.

A Happy Father—The Jones Quad—And a Little More Jingle.

CHICAGO, October 12.

To The Editor of The Operator.

On Thursday, September 30, at 2 P. M., to the wife of Geo. C. York, of the Western Union Telegraph Company, Chicago, a daughter, eight pounds. The above tells the whole story much better than any lengthy article, only we will add that George is as happy as a king; it's the first edition. Lawson has been away, for a ten days vacation, and has just returned Saturday. He claims to have a good time while at Lansing, where much of his vacation was spent. The Jones quad seems to be in demand, as there has been a set of quad instruments placed in position here for work, also in the main office, and at the "UX" office, in St. Louis, and we now work regularly with both offices on the quad, working a duplex with each on one wire.

Brown, of the Grand Pacific (Po) office, must be making friends or else salting the newspaper men. We noticed in a Holly Springs (Miss.) paper the other day, a description of the Mississippi editor's excursion, which stopped at that hotel while in Chicago, in which they speak of him as "one of the most courteous gentlemen they ever met." By the way, one of the representatives of that paper was a lady, wonder if that had anything to do with it.

He has requested his call changed from "Pe" as the boys call it the "Peacock office."

While wandering about the office, a few days since, we discovered some pieces of paper, on which were written a few lines in verse, which we of course confiscated, and herewith give your readers the benefit of the idea that there is something in a name.

There is a great deal in a name,
As I will try to show;
Though I may tell you nothing
You don't already know.
There's Stone's as soft as a padding,
Hazy as clear as a bell,
Plum as sour as a lemon,
And King of no palace can tell.
Holes you will find in a deep one,
Gray's chief color is black,
Springer is not very frisky,
Yet I can't say the old man is Slack.
Long is rather a short one,
Tallman is not over long.
Root carries his head very high,
And knows that he never is wrong.
Bail is more of a parcel,
A parcel quite small and rotund.
Baker was made for a poet,
For of rhyme he has a large fund.
Fish resembles a giraffe,
Hart is not much of a deer.
Reilly is very transparent,
Rather translucent, I fear.
So after very much labor,
Without an attempt to explain
How it is,—you see there is a
Very great dif. in a name.

Heroism.

NEW YORK, October 14, 1875.

To the Editor of the Operator:

A pretty predicament the ladies of the New York main office would be in if a fire should break out or anything else very serious should happen in the building. We had a specimen of the courage and bravery that would be displayed by our male operators, yesterday afternoon. There was rather an alarming noise heard through the building; in an instant the men were on their feet, and making for the door, while the ladies were not thought of. We are happy to say, however, that not a lady left her seat. We will give credit where it belongs, and remark a few gentlemen showed manly spirit enough to, at least, keep their seats. We will always be prepared in the future to depend on ourselves, and expect no assistance from those who believe in the eleventh commandment, "Every man look out for himself first." We heard the noise was occasioned by an extra force of water rushing through the pipes; nothing dangerous, however.

ADVENT ADMIRED OF HEROISM.

The Fair of the American Institute.

The annual fair of the American Institute is being held at the rink in this city. Among the many electrical inventions exhibited are burglar alarms in great varieties. The simplest one which has been seen is in the trunk of a trunk, and which will be found to be a most perfect protection against the burglar. It is a small, round, metal box, containing a gong, the hammer of which is actuated by clock-work. The alarm is set, and the device is placed in the trunk. When the door is opened, however gently, from the outside it strikes against the wedge, and suitable mechanism therein frees the spring of the clock train so that the gong is loudly and continuously sounded. The noise is sufficient to arouse the soundest sleeper. The invention might easily be adapted for windows as well as doors.

Remarkable Electrical Phenomenon.

The night of July 7 & 8, 1875, will be long remembered in Switzerland for thunder storms, several of them of almost unexampled severity. One of these that broke over Geneva was unprecedentedly severe and disastrous. It appears to have originated to westward, in the department of Ain, and took an easterly course up the valley of the Rhone to Geneva, on reaching which it spread over a wider area, and thence directed its course over Savoy. As midnight came on, though the heat was suffocating and not a breath of wind stirred below on the streets, light objects on the roofs of the houses began to be whirled about and carried off as by a tempest of wind. At the same time a dull, rumbling sound, resembling neither that of wind nor that of thunder, announced the approach of the thunder storm, and at 12 midnight exactly it burst over Geneva in all its fury. An avalanche of enormous hailstones, with no trace of rain, was precipitated from the sky, and shot against opposing objects by a tempest of wind from the southwest. In a moment the street lamps were extinguished, and in a brief interval incredible damage was inflicted, the glass and tiles of houses smashed to powder, trees stripped of their bark on the side facing the west, and crops of every sort were, in many places, all but totally destroyed. The smallest of the hailstones were the size of hazel nuts, many were as large as walnuts and chestnuts, and some even as large as a hen's egg. Some of the hailstones measured four inches in diameter, and six hours after they fell weighed upwards of 10 oz. For the most part the hail stones were of a flattish or lenticular form, with a central nucleus of 0.16 to 0.40 inch in diameter, developed in several concentric layers of ice, generally from 6 to 8, alternately transparent and opaque. A map has been printed in the *Journal de Geneve*, showing the districts where the storm was felt, as well as the degree of its intensity in each locality. The electrical phenomena were very remarkable; the flashes of lightning succeeded each other with such rapidity, from midnight till a few minutes after 1 o'clock in the morning, that a mean of from two to three were counted each second, or from 8,000 to 10,000 per hour. Electrical phosphorescence was remarkably intense before and during the hail. The ground, animals, prominent objects, as well as the hailstones were strongly phosphorescent. Immediately after the hail, ozone was greatly developed, the smell being so pronounced, as to be compared, by nearly all observers, to garlic. The incessant electrical discharges passed from cloud to cloud over a central point from which the hail fell, but thunder was very rarely heard. *Nature*.

Electric Force and Molecular Motion.

Mr. W. E. Sawyer, in his letter on "What is Electric Force?" in your issue of October 9, says: "When one pulls a bell cord, and instantaneously a bell is rung in a distant room by the molecular transmission over or through the bell wire of the force applied at the cord, does not one realize that he is as veritably, as wonderfully, and by a similar molecular motion, transmitting that signal as though he were transmitting it by applying a battery to a telegraph wire, and thus setting the atomic particles in motion?"

I propounded the above question to myself, endeavored to realize it, and failed signally; therefore I apply to you for help, and trust it will be given, for Mr. Sawyer's explanations of electric forces seem so clear and forcible as to enable almost any one to form a good idea of the subject.

When one pulls a bell rope, causing a bell to ring at a distant point, one can readily realize the disturbance of atomic particles from ocular demonstration. He sees the movement of the cord where

the force is applied, and also where the bell lever receives it, and the only rational explanation is that of molecular transmission.

In the case of the telegraph, he sees no motion, either where the force is applied, or where it is taken off, even when the force so applied is very powerful. However, this may be deduced by reasoning, as Mr. Sawyer so ably shows, but the real difficulty is at the end, where it is utilized. The wire terminates in a coil, and inside of this coil, entirely separated from it is a bar of metal, and entirely separated from this is the bell lever. Now it is difficult to conceive how the mere molecular disturbance of the wire causes a like disturbance in the bar, which again causes the same in the bell lever or armature. If the motion were transmitted directly to the bell lever by a material connection, as in the first case, then there would be no difficulty in understanding this application of the theory.

Philadelphia, Pa. THOMAS C. MARCKLEY.
—Scientific American.

Origin of Atmospheric Electricity.

According to M. Becquerel, solar spots, which are sometimes 10,000 leagues in extent, appear to be cavities by which hydrogen and various subjects escape from the sun's photosphere. But hydrogen, which appears to be only the result of decomposition, takes with it positive electricity, which spreads into planetary space even to the earth's atmosphere and to the earth itself, always diminishing in intensity because of the bad conducting power of the successive denser layers of air and of the crust of the earth. That would then only be negative, as being less positive than the air. The diffusion of electricity through planetary space would be limited by the diffusion of matter, since it cannot spread in a vacuum.

That gaseous matter extends further through space than the distance which is generally assigned to the earth's atmosphere will be proved by the fact that auroras, which are due to electric discharges, are produced at heights of 100,000 and 200,000 yards, where some gaseous matter must exist.

M. De la Rive agrees with M. Becquerel as to the electrical origin of the aurora, but considers that the earth is charged with negative electricity, and is the source of the positive atmospheric electricity. The action of the sun, he considers, is an indirect action which varies with the state of the sun's surface, as shown by the coincidence in the periods of aurora and sun spots.

In the accounts of travelers in Norway, we often read of their being enveloped in the aurora, and perceiving a strong smell of sulphur, which may be attributed to the presence of ozone. M. Paul Rollier, the aeronaut, who descended on a mountain in Norway, 4,328 feet high, saw brilliant rays of aurora across a thin mist, which glowed with remarkable light. To his astonishment an incomprehensible muttering caught his ear; when this ceased he perceived a very strong smell of sulphur, almost suffocating him. — *Mem. of the Natural History, Geology and Physics of Greenland*.

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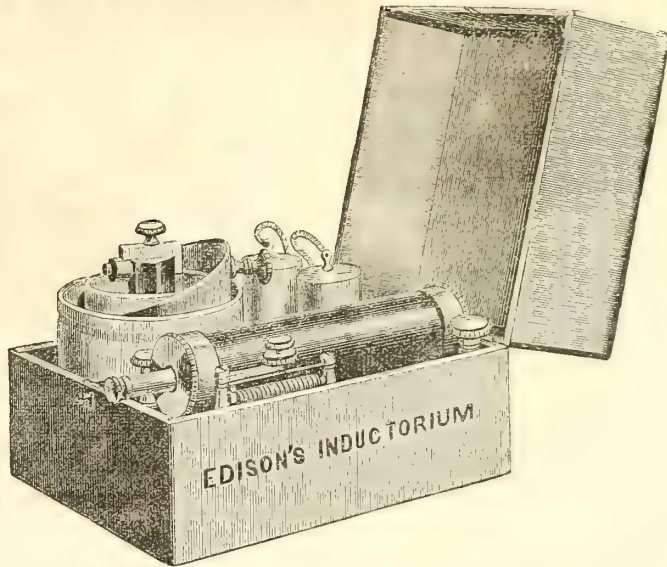
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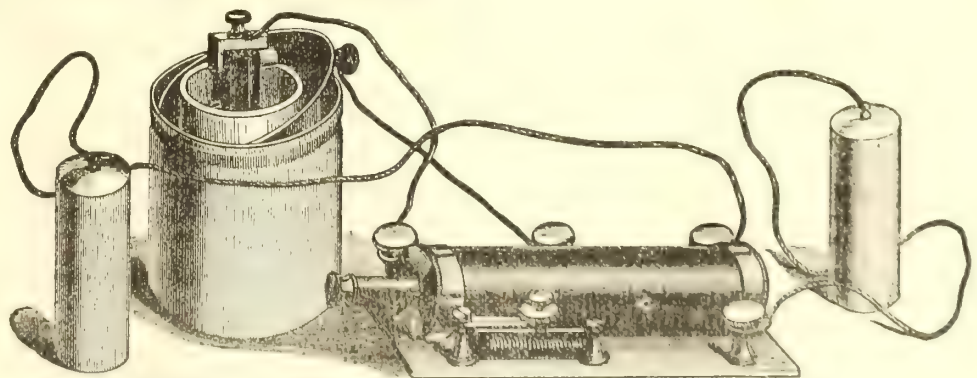
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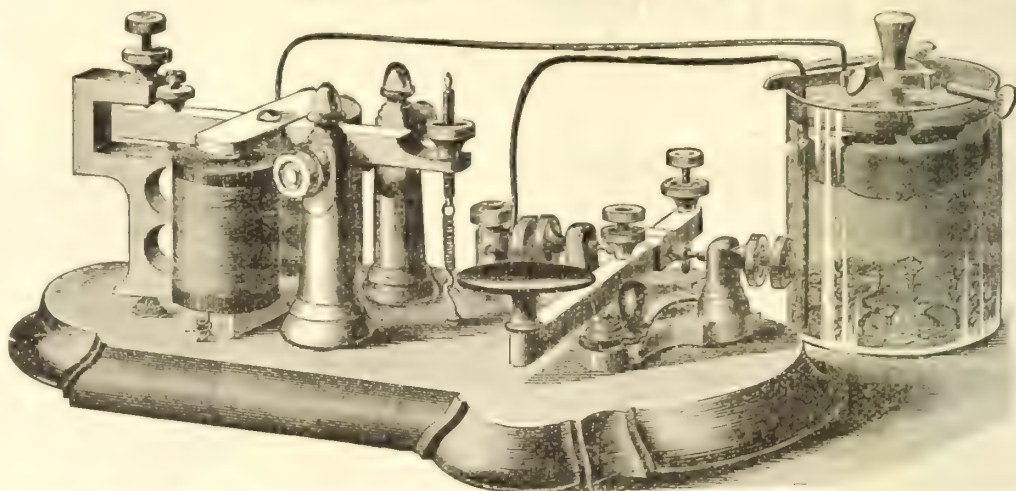
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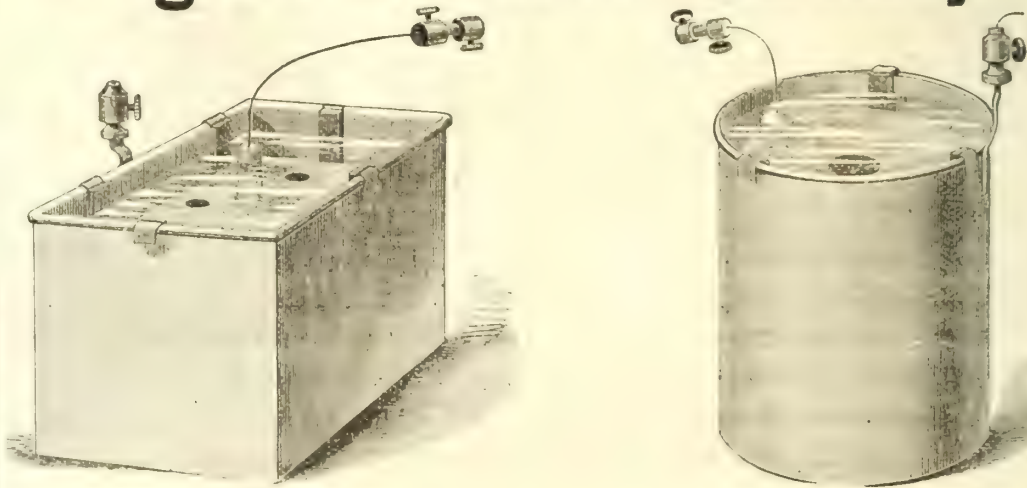
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VOL. IV.

NEW YORK, NOVEMBER 1, 1875.

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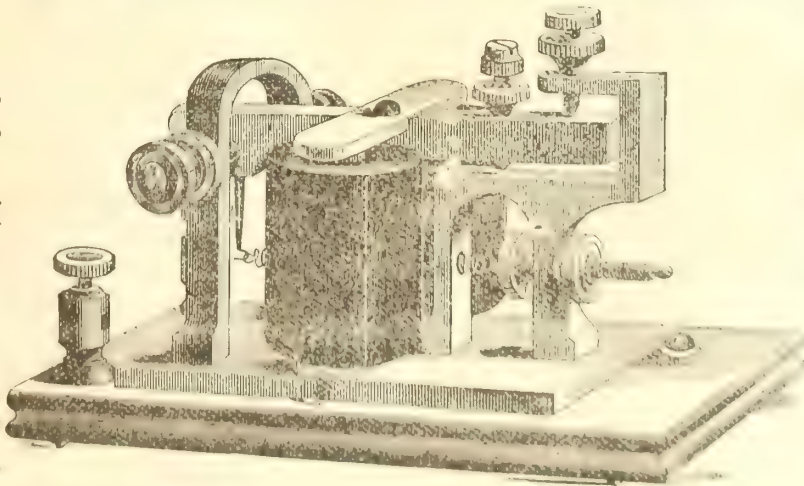
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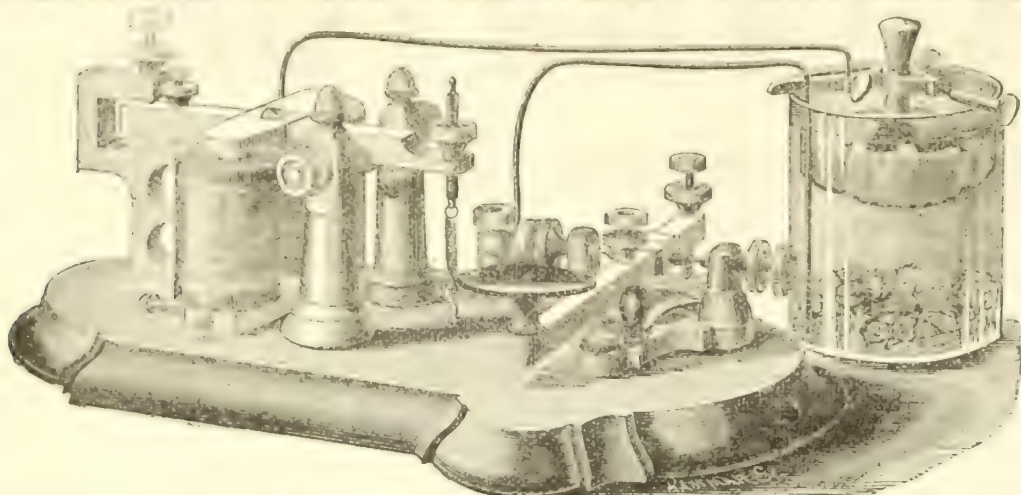


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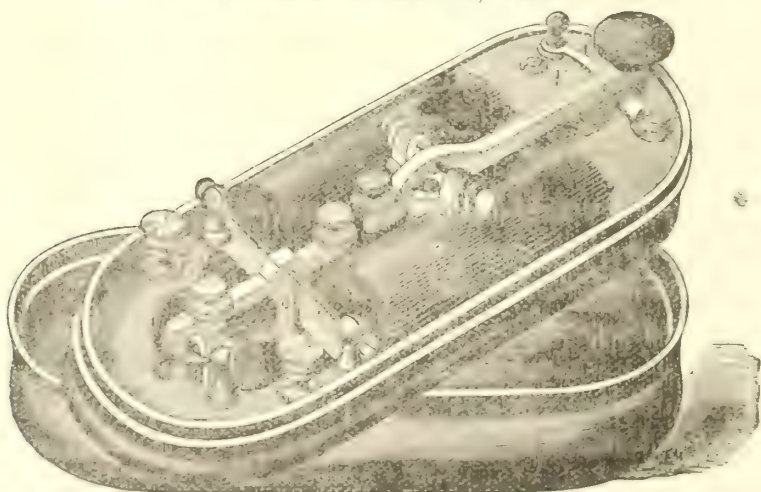
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SCIENTIFIC NOTES.

A correspondent of *The Scientific American*, in speaking of the effects of magnetism on watches says:

A few weeks ago my watch, for the first time in ten years, refused to go. Up to then it had kept correct time, and was then in good repair, having been recently cleaned. When it first began to stop I would start it by the key, and it would sometimes run a day; but finally it stopped entirely. I had it carefully examined by an expert, who, although he could find no cause, failed to make it run even for an hour.

I am running at my works a powerful magneto-electric machine for depositing copper; and having noticed that I could magnetize a piece of soft iron at a distance of at least six feet from the machine, so that it would lift and support the weight of a large nail, I became impressed with the idea that some of the steel parts of my watch had become permanently magnetized; so I made my watch repairer take it apart. Having some soft iron filings, I dipped the balance wheel, escapement wheel, lever and hair spring into the filings; and each piece raised up at least one half its own weight of the filings, showing all the polar characteristics of the particles.

I have read of watches being spoiled by magnets, but had no idea that it was unsafe to go into a room containing a magnet.

The watchmaker thought he might "brush it off" for about a dollar. I let him brush on it three days as a lesson in magnetism, and then told him that nothing short of heating it red hot would demagnetize it. He put in new parts, including a new main spring, which was also infected, and the watch now runs as well as ever.

Charles A. Hussey, New York city, has invented an improved electro-magnetic engine for running sewing machines and other light machinery, by which the induction currents of the magnets and sparks at the commutator are entirely avoided, and a more perfect utilization of the battery current is produced. The essential features are the stationary magnets having radial arms with T shaped ends, arranged in alternating position, so that the pole ends of one face the intermediate space between the pole ends of the other; the outer stationary magnets having widening pole ends of T shape at right angles to the arms; the central revolving magnet provided with widening pole ends of double T shape at right angles to the radial arms of the same, and the stationary and revolving magnets having radial arms and widening pole ends whose face width is somewhat larger than the distance between two adjoining pole extremities, so as to lap on the pole ends across the intermediate space.

During the past two weeks, Mr. Elisha Gray of Chicago, Ill., has been exhibiting his electro-harmonic apparatus in the Western Union Building in

this city. More than a year since we published an article descriptive of this curious discovery, so far as it had been developed at that time. Since then Mr. Gray has devoted the greater part of his time to the perfection of the apparatus, and has already succeeded in producing some very remarkable results. Mr. Gray's earlier experiments disclosed the fact that composite tones were as easily transmitted over a wire as single notes, and from this discovery he developed a system of multiple transmission, founded on this principle. The apparatus was tested experimentally on a wire between Boston and New York, on September 11, with very satisfactory results. Four separate communications were simultaneously transmitted from Boston, and copied from sounders by a like number of receiving operators in New York. In the main the signals were perfectly received on all the instruments, the only apparent defect being a tendency to shorten them somewhat, a difficulty which can doubtless be overcome by a suitable modification of the transmitting apparatus.

The principal of the apparatus is a very simple one. The depression of each key sets a self-vibrating electrotome in operation, which is adjusted or tuned to vibrate at a certain rate, differing from that of any others, when under the influence of the electro magnet controlled by its corresponding key. These several sets of electrical vibrations are transmitted through the circuit without interfering with each other, in the same manner that almost any number of different sets of sound waves may pass through the air without mingling. At the receiving station, each instrument is so adjusted as to respond to its own special sets of waves or vibrations without regard to others. By breaking and closing the circuit upon the transmitting electrotome, so as to form telegraphic signals, these are transmitted and taken up by the corresponding receiving apparatus.

It is not easy to fix a limit to the number of different communications that may be carried on over the same wire simultaneously, either in the same or opposite directions. The marked success which attended the operation of the principle through two hundred and forty miles of line, on September 11, seems to promise results in the future of the greatest value.—*Journal of the Telegraph*.

Among the recent patents issued for telegraph apparatus we find L. S. Crandall, Telegraph Keys, E. Gray, Printing Telegraph, T. A. Edison, Automatic Telegraph, T. A. Edison Telegraph Transmitter, &c.

The *Scientific American* office, New York, is fitted with the Miniature Electric Telegraph. By touching little buttons on the desks of the managers signals are sent to persons in the various departments of the establishment.

The following method is used in Germany for the preservation of wood:—Mix forty parts of chalk, fifty resin, four linseed oil, melting them together in an iron pot; then add one part of sulphuric acid, and apply with a brush. This varnish, when dry, is as hard as stone.

The Isle of Man cable was successfully laid on the 10th ultimo between the old landing place at St. Bees, near Whitehaven, and near Ramsey in the Isle of Man. Communication was re-established on the 20th ultimo after many months' interruption.

Wertheim, from an elaborate series of experiments, concluded that there is a temporary diminution in the coefficient of elasticity in wires while they are transmitting currents, which is independent of the heating effect of the current.

Faraday calculated that the decomposition of a single grain of water required 800,000 discharges of his large Leyden battery.

Dufour found a notable diminution in tenacity in a copper wire through which a feeble current had passed for several days. In an iron wire the tenacity increased under similar circumstances.

"Common air loses nearly all its resisting power at some temperature between that of boiling water and red hot iron, and conducts continuously (not, I believe, as is generally supposed to be the case, by disruption), as glass does at some temperature below the boiling point, with so great ease as to discharge any common insulated conductor almost completely in a few seconds"—(Thomson.)

Buff finds the quantities of electricity associated with one milligramme of hydrogen in water to be equal to 45,480 charges of a Deyden jar, with a height of 480mm. and a diameter 160mm.

Weber and Kohlrausch have calculated that if the positive electricity associated with one milligramme of hydrogen in water were diffused over a cloud, at a height of 1000m above the earth, it would exist upon an equal quantity of negative electricity at the earth's surface an attractive force of 2,268,000 kilogrammes.

Induced Current.—"It appeared as if the current, on its first rush through the primary wire, sought a purchase in the secondary one, and by a kind of kick impelled backward through the latter an electric wave, which subsided as soon as the primary current was fully established." (Tyndall.)

Unpolarized electrodes are obtained by using amalgamated zinc and a weak solution of zinc sulphate. If there be free sulphuric acid, it should be neutralized by carbonate of zinc. Common zinc may also thus be used.

The coarse long hair from the neck of an old chamois if drawn between the finger and thumb, from the root to the point, becomes positively electrified, but if drawn in the reverse direction it becomes negatively electrified.

Glass, especially the hardest and best vitrified is often a very bad insulator, sometimes being quite a conductor. Glass vessels made for electrical purposes are often rendered very good insulators by use and time, though they might be very bad ones when new.—(Cavallo).

A piece of wood cut from a tree is a good conductor; let it be heated and dried, it becomes an insulator; let it be baked to charcoal, it becomes a good conductor again; burn it to ashes, and it becomes an insulator once more.

The Indo European Telegraph Company (Limited) notify that the Singapore Batavia Cable is restored, and that messages for Java and Australia are accepted as usual via Teheran.

The Eastern Telegraph Company (Limited) also announce that the communication being now restored, messages can be sent as usual if directed "via Suez."

Notice has been received by the Indian Rubber, Gutta Percha, and Telegraph Works Company in London, that the section of cable between Iquique and Caldera, has been successfully completed. This brings Peru and Chili into telegraphic communication with Europe. The section had already been laid from Callao to Arica, Arica to Iquique, and now Iquique to Caldera, thus completing the Peru-Chili connection.

The delay which has recently taken place in telegraph messages from Australia and Java owing to the Eastern Extension Company's cable between Singapore and Batavia having been under repair. The communication which was interrupted is now restored, and messages can be sent as usual if directed "via Suez."

Edlund has shown that wires are elongated when transmitting currents.

FOREIGN NOTES.

In the Champs Elysees, in July, 1876, will be held an exhibition of the applications of electricity to industrial and domestic purposes. Information will be given on application at the offices of the exhibition, 85 rue de la Victoire, Paris. A special exhibition of the improvements in railway appliances has been proposed to be opened in Paris next year.

The roof of the Siemens-Halske factory at Berlin, was recently the scene of a series of experiments with the electric light, which filled all the streets in the vicinity with a crowd staring with astonishment at a supposed wonderful natural phenomenon up in the clouds. The apparatus, which gave a light so powerful that ordinary writing could be read by its illumination at a mile distance, was arranged with an enclosed mirror, so that the rays were projected against the clouds, which served as a screen. In front of the mirror the signals were made and these were repeated, of course on a gigantic scale, in the clouds. The light is to be adopted to the German army for night signaling.

The manufacture of the New Zealand Cable is steadily progressing, and arrangements are being made for its shipment: the "*Hibernia*" and "*Edinburgh*" will be employed on this work. The first vessel will be dispatched early in the present month, whilst the second will follow early in November. The total length of cable being manufactured is 1,370 knots. The core consists of 107 lbs. copper, and 140 lbs. gutta-percha of Willoughby Smith's improved manufacture. There are four types of cable—19 miles of shore end, 59 miles of intermediate, 300 miles of deep sea of the Mediterranean type—a solid covering of No. 13 galvanized homogeneous iron wire, protected with yarn and compound—and 1,190 miles of special deep sea cable; this type consisting of 9 strands of hemp, alternating with No. 13 galvanized homogeneous iron wires, the whole being well protected with compound.

In the Paris International Maritime Exhibition there is a small object deserving of notice. It is a platinum wire placed in a bottle and ignited by electricity from a bichromate battery. It is intended to be immersed in the sea, and the light emanating from it is said to attract an immense number of fishes. Experiments have been tried lately on the coast of the Cotes du Nord department with a fishing boat, and have proved very satisfactory, on a bank of sandbars. The glass must be green or black, otherwise the fish are frightened by the glare and do not follow the submarine light.

In the physical laboratory at Glasgow University, Sir William Thompson stretched steel and soft iron wire, about twenty feet long, from the roof. An electromagnet helix was placed round a few inches of the wire, so that the latter could be magnetized when an electric current was passed through the former, the induced current thus produced in a second helix, outside the first being indicated by a reflecting galvanometer. When steel wire was used, the magnetism diminished when weights were attached to the wire and increased when they were taken off; but when special soft iron wire (wire almost as soft as lead) was used, the magnetism was increased when weights were put on, and diminished when they were taken off. Afterwards he discarded the electrical apparatus; and by suspending a piece of soft wire near a magnetometer consisting of a needle, a small fraction of a grain in weight, with a reflecting mirror attached, the wire was magnetized inductively simply by the magnetism of the earth, and changes in its magnetism were made by applying weights and strains, the changes being then indicated by the magnetometer.

At a meeting of the Anglo-American Cable Co., in London, Oct. 1st, Viscount Monck, chairman of the company, in addressing the meeting said that he was unable to paint the position of their affairs in "rosate hues," for the traffic receipts of the company during the first half of 1875, compared with those during the corresponding period of 1874, showed a decrease of not less than £67,729—a result chiefly attributable to the continued depression of the American trade and the reduction of the company's tariff to 2s per word, and latterly (in order to meet the competition threatened by the Direct United States Cable) to 1s per word. In the opinion of Lord Monck and his colleagues in the directorate, the experience of the last three weeks had demonstrated beyond all question that, although a large traffic might be created by a rate of 1s per word, the increased traffic could not be profitably conducted; and they have accordingly decided to revert to the old tariff of 4s.

It will interest our readers, says the *Indian Daily News*, to learn that quadruplex telegraphy—that is, the art of sending four messages, two in each direction, simultaneously, by means of one wire—has this week been accomplished on the Madras Railway Telegraph. The system which Mr. Winter, the telegraph engineer, invented in March last, proved perfectly successful on eighty miles of line, and its extension to lines of greater length is simply a question of additional condensers and battery power. The principle of sending two messages simultaneously in the same direction, on which this quadruplex system depends, was successfully worked between Salem and Madras on April 16, but unfortunately other duties prevented Mr. Winter's carrying out the duplexing of this principle until the last few days.

The report of the Direct Spanish Telegraph Company (Limited) states as follows:—"The balance at the credit of profit and loss is sufficient to pay, after providing for the 10 per cent. preference dividend, a dividend at the rate of 5 per cent. per annum on the ordinary shares, leaving a balance of £429; but inasmuch as the half-year ending 30th June was commenced with a reserved fund of £704 (since absorbed in the repairs of the Santander Cable), the directors deem it prudent to recommend a dividend of 4 per cent. per annum on the ordinary shares, and to replace this sum of £704, together with a further sum of £307 to the credit of the reserve fund, so as to begin the current half-year with a total of £1,011.

Yellow Fever and Electricity.

A correspondent writing from Fayette, Mississippi, to the *Scientific American*, gives a curious succession of observed facts, which may lead to a clearer understanding of the conditions under which yellow fever is generated, and as a consequence, to new methods of preventing or curing the disease. He says that prior to the breaking out of the fever and during the prevalence of the epidemic, the rains are unaccompanied by lightning and thunder, which in other seasons are common. There was only one peal of thunder heard in this county between the middle of September and the latter part of October. In 1855, at a school celebration, a sufficient amount of electricity could not be generated to perform the simplest experiment with the electrical apparatus, and shortly thereafter the yellow fever broke out and raged terribly. The writer draws the conclusion from these facts that the prevalence of yellow fever is dependent upon the electrical condition of the atmosphere, and suggests that science may be made to apply the necessary conditions to public health.

Faraday established the fact that gases are but the vapours of liquids possessing a very low boiling point.

Obituary.

PROFESSOR WHEATSTONE.

A cable despatch from Paris announces the death in that city of Professor Charles Wheatstone. The deceased was born at Gloucester, England, in 1802. He gained a world reputation by the publication of numerous scientific works, but in an especial manner by the impulse he gave to the study of electricity. The invention of electric telegraphy is sometimes attributed to him, and he certainly contributed to its practical application. His inventions are better known in England than with us, his A. B. C. for private lines, differential galvanometer and other testing apparatus being largely in use in the Postal Telegraphs. His best known telegraphic invention, however, is what is known as the Wheatstone Automatic system. It is mainly depended upon at horse races, special meetings, &c., where an unusual amount of business has to be transmitted, and is similar to the Automatic system which failed to make friends in this country. He is also said to be the inventor of the stereoscope. At the close of the Paris Exhibition of 1855, where he was one of the judges appointed for the department of light, heat and electricity, he was decorated with the legion of honor. In 1868 he was appointed professor of physics in the Royal College of London. Professor Wheatstone had been ill for some time, and his death was expected.

Sir Charles Wheatstone.

The *Scientific American*, in speaking of this distinguished inventor, whose decease we have just mentioned, says that he was engaged in early youth in the manufacture of musical instruments. With the object of improving on these, he was led to the study the laws of sound; and thus imbibing a strong taste for physical science, he proceeded to the investigation of the phenomena of optics and subsequently of electricity, on the velocity of which he published papers in 1834, detailing many very striking and new experiments. In the same year he was appointed Professor of Experimental Philosophy at King's College, London.

Previous to this time William Fothergill Cooke, in Hiedelberg, Germany, had completed his first telegraphic invention, based on the electrometer form, had followed it with two mechanical telegraphs, and soon after came to England to introduce the telegraph system on railroads. His efforts at first pointing towards success were, however, nullified by a pneumatic signal apparatus, to which the railway people gave preference; but instead of being disheartened by his failure, the inventor began new experiments, regarding which he sought the advice of Faraday. The latter referred him to Wheatstone, and then, in 1837 began that partnership which has sent the names of the two inventors to posterity, indissolubly linked. It was Wheatstone's great learning, combined with Cooke's inventive genius, that evolved the succeeding discoveries in the telegraph. "Mr. Cooke," says Brunel, "is entitled to stand alone, as the gentleman to whom this country is indebted for having practically introduced and carried out the electric telegraph as a useful undertaking, promising to be a work of national importance; and Professor Wheatstone is acknowledged as the scientific man, whose profound and successful researches have already prepared the public to receive it as a project capable of practical application.

Invention now rapidly followed invention; the first was a discharger and secondary circuit to be applied to Cooke's original alarm; then combinations of all the various improvements; then a new mechanical telegraph, Wheatstone's work; then another telegraph, having a revolving index band on a fixed dial, a new device of Cooke's; besides others

all devices of remarkable ingenuity, and the subject of several patents in England. On the 12th of June, 1837, the inventors received their first English patents, and on the same date obtained an American patent on the electro-magnetic telegraph. This, however, was of no benefit to them, as the apparatus was never practically employed in this country, Professor Morse's instrument, as is well known, being the chief one in use from 1844 to 1846.

Wheatstone was a Fellow of the Royal Society, and twice received the medal of that association for his discoveries. Both himself and his co-laborer Cooke received the honor of knighthood in recognition of their public services.

What is the Electric Force?

Mr. W. E. Sawyer, of Washington, D. C., has commenced a series of articles in *The Scientific American* on the subject of Electricity. Under the heading of "What is the Electric Force?" he says:

In the point of sound force, we have accurately determined the number of vibrations of matter per second necessary to the production of a certain sound; in that of light force, we have approximately estimated the number of vibrations, waves, or molecular motions per second necessary to the production of the various colors. In the point of heat force, we have determined that it exists in a certain violent molecular motion; and in the point of electric force, we have determined that it also exists in a certain molecular motion. And I may here mention, as being one of the strongest proofs, the fact that a current transmitted through a bar of iron will not disturb it, the fact that a current transmitted around it will not disturb it, and the fact that a current transmitted simultaneously through it and around it will cause it to twist in a very appreciable degree, which would not be the case unless the electric force consisted of molecular motion. If we were in possession of no other proof that the idea of a fluid flowing through an electric wire is a myth, we might easily be assured of it by the fact that molecular motion alone is the necessary condition of all other forces. This motion, beyond doubt, varies in intensity and form in different forces, but that it is the one condition of force there can be no doubt; and that the only difference between the forces is the difference between molecular actions may be accepted as a truism. To my mind the force of attraction of gravitation, and perhaps the more remarkable orbital motions of the planets, are forces to which the electric force bears no comparison. The electric force, in fact, is no more mysterious than is any other force. When one pulls a bell cord, and instantaneously a bell is rung in a distant room by the molecular transmission over or through the bell wire of the force applied at the cord, does not one realize that he is as veritably, as wonderfully, and by a similar molecular motion, transmitting that signal as though he were transmitting it by applying a battery to a telegraph wire and thus setting the atomic particles in motion? Cannot one realize that, if there are bells at different places upon a long wire, the nearest bell will ring first and the most distant last? But no one would speak of a subtle fluid as the cause of the ringing, although there is just as much subtle fluid passing over the bell wire as there is when a telegraph operator in New York makes a signal in Chicago by applying the battery to the line of wire connecting the two distant places.

As in this force, so in electricity, nothing flows through the wire. There is, in fact, the most striking analogy between the molecular transmission of electricity and the molecular transmission of all other forces. The stronger and more rigid the lever, the larger and firmer the belt, the larger the tube for water or air, the better the transmission of the forces applied. The larger the conducting wire,

the more perfect the transmission of the electric force; because the larger conductor we have, the more perfect must be the molecular motion.

We are now brought to consideration of one of the most important facts bearing upon the question of molecular motion and the theory of a subtle fluid. The force of the electric current is as the square of the distance or length of the conductor. A battery is a constant generator of electric force. These are our premises, and it is not difficult to understand that if, as according to the subtle fluid theory, a wire have a certain capacity to hold that fluid, just as a tube has a certain capacity to hold a liquid, it cannot matter what the length of the wire may be. It is well known, also, that the resistance of a wire varies as the square of the diametric amount of metal. Therefore, in considering the electric force as a fluid, we are bound to consider the wire as a reservoir for that fluid. Now an immense quantity of electricity passes over a very small wire in a certain period of time; and a wire 18 of an inch in diameter, the battery being of proper dimensions, will charge a condenser up to a certain point in one half the time that a wire of less diameter, composed of 1-2 the diametric amount of metal will charge it, and in one fourth the time that a wire composed of one fourth the diametric amount of metal will charge it; but the smaller wire will charge it to its full capacity as well as the longest wire, merely requiring more time in proportion. Therefore, if a battery be attached to a wire 100 miles in length, the subtle fluid theory would, as soon as the battery should have sufficiently charged the wire, make it necessary that the strength of the electric force in the 100 miles of wire should be as great as though the wire were but a mile, or a few feet, even, in length. This statement cannot be controverted.

Very far from this, however, is the case. We may have our battery upon the wire for any length of time, and we shall find that the force of the electric current still varies as the square of the length of the wire. This, alone, utterly disproves the theory that, in transmitting a signal by telegraph, the wire is charged by a subtle fluid, and proves beyond doubt that the action of the battery is to impart a certain force to the atomic particles of the conductor, which act, each in turn, upon the next and the next, losing force in each successive action, just as we behold every day in the operation of all the forces surrounding us, as, for instance, the ripples occasioned by the dropping of a pebble into a still pond, widening and widening and decreasing in force and intensity as the square of the distance. In the molecular action, there must be a loss of force every time one atomic particle imparts the electric force to another. This we know is the case. According to the subtle fluid theory, this could not be the case.

Again, if we can prove, as in the case of light, that one transparent substance will transmit certain rays of light and not others, we prove that the transmission of the light force is due to molecular action, that the light force itself, in fact, is a certain molecular action. This will be conceded; and I suppose I need not at this point endeavor to prove that such is the case, as the facts have been set forth by students in this line of science, among them Professor Tyndall, in far weightier terms than I am able to command. The one and only deduction to be made from the result attained is that certain atomic conditions are necessary to the transmission of certain forces, and that certain substances are incapable of assuming the atomic conditions necessary to the transmission of certain forces. The same general law holds good in respect of the electric force.

A. G. Bader for A. G. Baker by that rising young agent "Su."

An Exceptional Applicant.

"Good morning, Mr. B!"

In the greeting there seemed nothing unusual, in the responsive glance from the quick eye of the person addressed a faint fervor of recognition was observed by the speaker, that was all, silence then ensued—that peculiar solitude, alike familiar and somewhat torturing to the average applicant for favor, a feeling perhaps known to many who peruse the columns of this paper. The young man wore about him that unmistakable "air" incident to our calling, that of an experienced adept in the "dots" and "dashes" we all love with such fascinating pernicacity. During those moments of silence our hero probably thought how inconsistent in him to announce, to the superintendent, the *goodness of morning!* it would have been in order, on the wayside to a feeble traveler, but in "high places" never!

"Where are you from?" broke at last from the official corner. The young man seemed little affected by the abrupt query; a sudden sensibility of having no "references" to show that he came from an uninhabitable sphere, no doubt prompted his rejoinder "From the basement floor I cometh."

The reply flavored considerably of humorous diversion duly noticed by the superintendent.

"Ah! to whom am I indebted for this morning call?" he asked.

"Pardon me, I am a bad materialist," was the evasive answer.

"The deuce, you are; how so?"

"Because sir, it is *im-material* to me what remuneration I shall receive."

This sally was pronounced "too good" in the estimation of the superintendent, who then relapsed into the more serious mood which his applicant had been waiting for, it appears.

"Then you are a first class operator?"

"Experience be my witness, trial be the proof." (Eloquently.)

"Oh! indeed, (ahem) I am favorably impressed, but my dear sir I am compelled to say, we have something within seventeen tons of written applications on hand, and, (I deem it no exaggeration) upwards of five hundred *personal* applications each day, yet your name shall be filed for my favorable consideration."

"Are they *all* coming here?" (musingly)

"Yes—undoubtedly—in time," was the cheering reply.

The youth grasped the surprised magnate's hand and fervently laughed an exulting laugh.

"Why my dear man the information seems to elude you; are you not anxious for work?"

"Yes Mr. B., my dear sir, *yes*—but not now (with bowed head) not *now!* pardon the delusion I have forced upon you—but oh! let them come here, let the five hundred come! I entreat you, but give me, oh give me your consent to work in Paradise, July 4th, 1876.

It is stated that both applicant and hearer fell into an hysterical embrace at this juncture and were tenderly lifted to the air by an appreciative elevator.

At all events it was not
—BRAD S. KAPR.

HE ACTED KNORRILLY BUT FAULTED—There is a tradition among the American District messengers of boys that the Western Union Co. pays for all district bells broken in endeavoring to wake up people for whom messages come during the night. A few evenings ago one of them was sent with an important message and told to deliver it if possible that night. He returned in about an hour, with the message, saying, "I couldn't wake the people up, but here is the door knob."

The Operator.

A Journal of Telegraphic Literature.
PUBLISHED BY

WILLIAMS & JOHNSTON.

Volume IV. - - - Whole No. 42.

NEW YORK, NOVEMBER 1, 1875.

TO OPERATORS.

The Operator has now the largest circulation of any telegraph paper published in the United States, but as we are desirous of increasing it, we offer as an additional inducement to subscribers **fifty handsome visiting or address cards** to each new subscriber for the year. The same offer applies to renewal and clubs. The cost of these cards would hardly equal the price of a year's subscription, if ordered separately. Subscribers should in all cases, being compensated by the mail or a Post Office order.

In addition to the above we offer the following prizes for clubs.

For a club of six yearly subscribers, we will send one copy free for one year.

For a club of 8 yearly subscribers we will give a first-class Induction.

For a club of 12 yearly subscribers, we will give a first-class Morse Key, Western Union pattern.

For a club of 15 yearly subscribers, we will give a first-class Giant Southerner or a Lamer's set.

For a club of 25 yearly subscribers, we will give a first-class Morse Key, Giant Southerner, and one year's subscription to The Operator to the person sending the club.

For a club of 40 yearly subscribers we will give a good substantial American Silver Watch.

NOTICE.

Telegraphers visiting New York, will, by calling at the office of "The Operator," No. 7 Murray Street, be shown through the different telegraphic institutions of the city.

We are now organizing our agency system, and would be happy to receive the names of any of the fraternity throughout the country, who would be willing to act for us.

When requesting a change of address, subscribers will please give their former as well as their present address.

We always stop "The Operator" at the expiration of the year, or of the time for which it is paid; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

To our correspondents we would say, please try and have your letters in our hands at least 5 days before publication day; less time than this crowds us to the limit, and we are anxious to give each person a full chance to see the products of his pen in our columns.

A VISIT TO THE FAIR OF THE AMERICAN INSTITUTE.

At the American Institute Fair, now being held at the Rink in this city, there are many interesting exhibitions of electrical instruments and workings. We shall speak of them in their order as they appear on entering the building at the main entrance.

The first to be seen is a neat little Western Union office, situated at the west end of the building at an elevation which commands a view of the entire first floor. This is only the second year that this company has had an office here and it has already become a necessity, one which cannot well be done without. A little farther down on the right is an office of the American District Telegraph Company. Here are stationed about a dozen boys in new uniforms, bright shining buttons and white gloves who administer to the wants of the public with that promptitude for which

they have long been noted. In connection with this office the Champion Burglar Alarm Co. have a miniature house which is connected to an annunciator and shows their system thoroughly. They also exhibit a full line of Morse instruments of L. G. Tillotson & Co.'s manufacture, among which we notice Bunnell's famous Giant Southerner, Pocket Relay, &c. Then comes the Holmes' Burglar Alarm Company who have a large safe entirely surrounded by electricity; it works admirably well. It is worked on what is called the bank system.

The next space is occupied by the Union Motor Co., who exhibit their electro motor of ten horse power run with ten cups of battery. (The size of the cups not given.) It is used for pumping water and other light work. A Remington sewing machine is run at the rate of four hundred stitches per minute by a smaller motor with four cups of battery, at a cost of four cents per day. In the centre of the Rink is a large organ which is furnished with air by a ten horse motor.

Messrs. Welch and Anders, of Boston, have on exhibition a pair of Electro Magneto Printers which perform their part in first-class style. Judging from appearances, the public take a great deal of interest in the printing telegraph system. Mr. Welch is kept busy the entire evening printing little slips which he distributes among the large number of spectators who nightly gather around him. It is rumored that the Gold and Stock Telegraph Company are about to adopt this printer which, in case they do, will reduce their running expenses considerably.

For the past two years there has been considerable talk about running all the wires in this city underground. Various plans have been offered but as yet none have been adopted. We find here a new mode by which the most serious objections to the plans previously presented are overcome. Copper wires are drawn through glass tubes of a somewhat larger diameter. These tubes are in turn enclosed in an iron pipe and held firmly therein by paraffin, which is poured in in a melted state. For lateral connections, as well as for convenience in laying, traps are used, into which the pipe is screwed, the wires passing over non-conducting bridges, so that any wire may be taken out and replaced without interfering with the working of the others. The pipes are made in suitable lengths and are connected by couplings, the joints being faced with paraffin. The inventor states that the device has been tested over considerable distances with success.

On the whole there is a fine exhibit of electrical works at the fair this year and one that reflects great credit on the exhibitor.

Grappling an Ocean Cable.

The scientific methods for making splicing and grappling ocean cables have been so much improved and perfected of late that there are strong reasons to trust the telegram reporting that the Direct United States cable will be repaired by the tenth of November.

The Faraday, which has successfully laid that cable amidst so many unforeseen difficulties, has sailed, October 19th, from England to pick up the cable and repair the injury it is supposed to have suffered in that portion lying between New Foundland and Nova Scotia. In that region the water is not near so deep as in the abysses of the Atlantic and the Faraday will have fewer difficulties to

overcome than were encountered by the Great Eastern when she had to grapple the first cable laid on the unfathomable bottom of the ocean.

NEW YORK TELEGRAPHERS' ASSOCIATION. The Second Annual Ball.

At a meeting of the New York Telegraphers' Association, held October 11th, the following officers were duly elected for the ensuing year:

Prest. D. W. McANNEENY.

Vice Prest. S. H. EDWARDS.

Fin. Sec'y. J. H. LYMAN.

Cor. Sec'y. THOS. G. SINGLETON.

Treas'r. J. H. DWIGHT.

COMMITTEE OF ARRANGEMENTS.

JNO. A. ASHURST,

GEO. W. ROBERTS,

W. H. MCENROE,

GEO. W. SAWYER,

D. HARMON, JR.,

L. R. HALLOCK,

L. B. MCCARTHY,

W. S. WILLIAMS,

W. J. LANDY.

The committee have secured Ferrero's Assembly Rooms for the night of January 21st. The hall will be handsomely decorated with bunting and flowers, and over the orchestra there will be a large gas jet with the words The New York Telegraphers' Association. The invitations are to be simply immense. They will bear telegraphic emblems which have been executed by a first-class engraver. The music will be under the direction of Mons. Bernstein.

At a meeting of the association, held on Monday evening last, Oct. 25, to hear the reports of the various committees, a discussion took place which soon became general, in regard to operators who are "going" to the ball but who refuse to become participants in the responsibilities as well as pleasures of the undertaking by contributing toward its success, preferring to trust to the good nature of their fellow operators for a "free invitation" rather than help us make this, our Centennial gathering, one to be remembered.

The honor and credit which will attend the success of this, our second annual Ball, will be distributed share and share alike among all telegraphers, and it is but right and fair that we should all contribute share and share alike towards making it a grand one. A member certainly has a perfect right to invite whoever he desires, operator or not, but we think the invitations should be distributed among those outside of our business who have not the opportunity of signing the roll.

Operators from a distance will be furnished with the necessary "invite" on application through a member, and we ask all members to place their invitations outside the profession as much as possible—and let operators who will not help us through look out for themselves.

The next regular meeting of subscribers will be held, the evening of November 15th, in the auditors office, W. U. Building, when all are earnestly invited to be present to take part in the proceedings and also to settle their indebtedness, as the printing will have to be paid for in order to have invitations in the hands of all the members by first of December. At this meeting there will be a report read and a detailed account given of all expenses thus far incurred and a statement as to how much money it will be necessary to expend to make it "The Ball of the Season."

Autumn.

Under the impression that we were a poet of nature, we wended our way up to Central Park last Sunday afternoon to admire the surprising contrasts of light and shade, of form and color, which the trees present during the magnificent autumn weather.

At the entrance to the Park we were accosted by a man who very kindly offered us the use of his carriage for a "beautiful ride in the Park," and had just made up our mind to accept the proffered kindness, when he remarked that it was "only two dollars all around the Park." Then we concluded that perhaps walking was the best exercise after all.

To those of poetic taste the Park presented a sight magnificently beautiful, the different colors blending in a sweet picture, which made one almost wish "that time might at a stand-still be for ever."

A gentleman at our elbow appears to have been very much impressed with the poetical beauty of the scene, judging from his conversation with the lady by his side.

"See," he exclaimed enthusiastically, "the magnificent picture of poetic grandeur nature spreads before us! See how beautifully the stately trees, with their bewitching diversity of shade and color, sway to and fro in all their natural loveliness. And mark what congregation and concentration of all the elements of sublimity and beauty!"

"And just see," interrupted his companion, "what a fright that slim woman is with that horrid pull-back!"

The poor fellow groaned, and seemed to have suddenly become a believer in the doctrine of total depravity. And when that boy remarked:

"O-h! G-e-o-r-g-e!" he expressed our, as well as his own opinion.

Extension of the A. & P. to St. Louis.

A telegram dated Chicago, Saturday, Oct. 23rd, reported that the Atlantic and Pacific Telegraph Company's line was completed between that city and St. Louis the day before, and all arrangements for transacting business perfected. But a later dispatch dated St. Louis says:

"The Atlantic and Pacific Telegraph Company stretched a wire on the bridge here yesterday evening to connect their lines with this city, and shortly afterward the bridge company cut it down. The telegraph company claim the right to use the bridge under an act of Congress, but the bridge company, having a contract with the Western Union Company granting them the exclusive right to use their structure, refuse to allow the Atlantic and Pacific folks to go on it."

The Ladies.

The *Daily Graphic*, some time ago, after adjusting its spectacles and looking very serious, summed up the sex business as follows:

"It seems to be settled that women do not make good compositors nor good telegraph operators. They lack concentration, and are thinking too much while at work of their clothes and their beaux. Of course there are exceptions, but this in general and discouraging rule. It seems also to be pretty well established that the sex can't keep secrets, and when their interests are involved are not always to be depended upon for veracity."

Well, that's a good one! who ever heard, for instance, of even a man acknowledging that the wire had been open in his office?

We think the one is about as reliable in the matter of veracity as the other, and perhaps more so.

Don't fail to attend the meeting of "The New York Telegraph Association," November 15th.

At it Again.

The compositor who turned the sentimental young lady's line

Moisture from freshly blown roses,
into

Moisture from freshly blown noses,
has been heard from. He is now an operator on the Pacific slope. His latest exploit was in connection with a congratulatory message to a newly married couple which he changed from "May your life be rich with the blessings of joy," to "May your life be rich with the blossoms of joy."

Signs of the times.

From the appearance of things now, it is probable that there will be some very hard work done in political circles in this city on Tuesday, next (election day).

The American District Telegraph Company delivered, 60,000 addressed, and distributed 300,000 unaddressed political circulars in two days and a half without any serious delay to their regular business.

Sending Extraordinary.

Let Boston look to her laurels. She prides herself in having the fastest sender on the American Continent. But a recent discovery in telegraphing has been experimented upon in Belgium lately. One operator sent simultaneously to Ostend and Antwerp from Brussels the same dispatch at the rate of 600 words a minute. From Ostend to Brussels a dispatch was sent at the rate of 1,002 words a minute.

Important business will be brought before the meeting of the subscribers to the Ball fund to be held November 15th in the Auditor's room, Western Union building, corner Broadway and Dey street.

The Plug's Soliloquy.

Alas! how easily things go wrong!

A dash too short or a dot too long.

And there falleth a storm like a blinding rain.

And life is never the same again.

We would call the attention of our readers to our new advertisements, the "Anders" printer, of which a full description is given on another page, also that of Grinnell & Eagles, who have opened a general supply store at No. 7 Murray street. Their Burglar alarm is perfect, and their keys (Western Union pattern) are "A" number one.

Censure is most effectual when mixed with praise. The lady appreciated this, who remarked to an operator who was sending wretchedly on purpose to rush her, "Your sending appears to be real nice, but I think you and I must have learned very different systems!"

Oney Gagin's letter in another column will be read with interest. His picture of the professional boor is strikingly realistic. Unfortunately there are too many such men as he portrays, and we hope they will all take a lesson from his letter, and be brought to "See themselves as others see them."

Electricity.

Electricity is the great agent in exciting nervous action; even after the vital spark has fled, it will excite the nervous system so as to cause the muscles to imitate nature as to be indistinguishable from the actual presence, save in the absence of respiration and speech.

Every subscriber to the "Ball fund" should be present at the general meeting to be held at the auditor's office, W. U. building, November, 15th.

PERSONAL.

Carri for Carey by Miss "X."

W. F. Pease is operator at Adams, N. Y.

H. B. Briggs is manager Jamesport, Mo., office.

Mr. Henry A. Harley is manager Bridgewater, N. S. office.

Miss Nellie Sponagle is manager Sunenberg, N. S.

Patrick! Who was present when Mr. Yiall stole the stone? N. C.

W. E. Savage, formerly of Little Falls, N. Y., is taking night press at Binghampton, N. Y.

Chas. E. Schuyler is still at Little Falls, N. Y., New York Central R. R.

"Br," again; Stimwell for Stillwell. Keep it up John, it will make a man of you in time.

T. H. Spencer is operator at Charlottetown, Prince Edward's Island.

H. D. Carter is with the R. W. and O. R. R. at Watertown, N. Y.

H. T. Elderli for H. T. Elderd, by ex marine chief Weller on the Philadelphia Morse wire.

Mr. W. H. Kelsey is the North Western chief operator at Milwaukee.

Mr. Ed M. Wolff is manager Gaspé Basin, Que., office.

Thomas B. Grady, late operator at Cape Traverse P. E. I., has removed to Summerside, P. E. I.

Miss Alice M. Ellison is still manager of Bartonsville, Vt., office.

Frank Cuthbert is operator at Carleton Place, Ontario.

J. S. Young is "resting on his oars," Mr. Cummings having returned to his old post at 812 6th avenue.

John C. Carrione Forty one West 44 street, for "John C. Carey one forty one West 44 street," by operator on 14th street and 3d ave., city wire.

The departure of a certain Saratoga lady for Europe on Saturday last was the cause of Mr. Thos. H. Reilly extraordinary excitement.

Lake George, N. Y., office being closed for the season, Charles E. Arnold has returned to his old place in the W. U. office, Albany.

Theo. Williams, of the New York main office has accepted a position in W. U. office at New Orleans for the Winter season.

A. G. Fox, after a year's absence in other business, has returned to his first love, and is again manager of the Auburn, N. Y., A. and P. office.

A. E. Shineman, operator Frankfort depot, N. Y., has taken unto himself a "Guns." He secured it at Lion, not at the armory as one would suppose.

T. P. Nightingale, whom many remember as being "bounced" from Utica, N. Y., W. U. office for news purloining, is now managing a small hotel in that city.

We are informed that any person wishing a copy of the Moody and Sankey hymn book, can obtain the same from Mr. R. H. Morris who has been appointed as the agent at 125 Broadway.

Mr. John Gay, formerly and for a number of years an operator in the Albany office, but now manager of the Georgetown, Colorado, W. U. office, was recently married to Miss Carrie L. Blinn, of Georgetown.

Charles L. Rogers has resigned his position as manager of the Montreal wires in Utica, N. Y. office and gone to Providence, R. I., to accept a position in the office of the American Screw Co. His successor at Utica is Frank Nicholson, formerly of Troy.

CORRESPONDENCE.

Oney Gagin on Professional Boors.

PORTLAND ME., NOVEMBER, 1875.

To the Editor of The Operator:

If Gibbon had been a telegraph operator, we should have had instead of a "History of Rome," eight volumes concerning the "proper deportment of operators over the wires," and even then, the subject would not be so exhausted but another historian could take it up and make a good thing out of it.

I am afraid if I begin to say anything about it I shall get excited and lose all appreciation of the limits of this paper, and of the powers of endurance of its readers.

That man who could talk till the last trump sounded, and wait till the confusion was over and begin again, is the only one who could do justice to the subject.

Not long since, I went down to the rivers brink with a friend, who by the way is considerable of a naturalist as well as telegraphist. He had predicted a swarming of ephemera upon that morning, and we did not wait long to see the prediction verified.

Presently along the shore these little insects arose, a cloud like tremulous mist, enveloping us, filling all the air above and around us. The atmosphere was actually dim with these little winged creatures; they rose into birth in myriads, soared upwards for a glad moment through the ambient air, and even as we watched them they descended, falling in showers upon all around—dead,—their little life lived through, and its feeble flicker blown out within an hour.

My companion turned to me: "Well, Oney, what image do you draw from this?"

Not being in the image business at the time, I had to give it up, but since I have started this paper concerning the proper deportment of operators, I think I see the moral of the incident very plainly, viz.: "Strike while the iron is hot," or what is the same thing, when thoughts begin to swarm upon any mighty topic, "gather them in," with a Gillott's 303.

I've tried to do this many times when my thoughts were swarming upon the proper deportments of operators, but such thoughts have swarmed and fallen dead so many times, when there was no time or writing materials at hand, that I begin to believe I shall never secure other than a few straggling reflections, but if these have vitality enough in them to arouse in any heart the faintest effort toward improvement, or aid in the smallest measure a new-formed resolve to keep the mind as well as the instruments nicely "adjusted" I shall not have borrowed an ink-stand in vain.

Such a goodly number of our frets and mis-managements come under the head of "adjustment" that to be finely adjusted, morally as well as scientifically, comprises about all that is requisite in what we ought to call a first-class operator.

In becoming one this world of operators, you are becoming one of the family: your good or ill temper, your education or lack of it, your religious or irreligious training, in short every trait of your general character will sooner or later become known to your brother and sister operators, to your own and their edification or annoyance; you cannot escape this. You can more easily dodge a Life Insurance agent, or Tax Commissioner. I know by experience, for I have dodged a brown handle—that is—as I was saying, you may resolve to be ever so isolated, but in some unguarded moment, out will come a few of your characteristics, and you are henceforth unmasked. Not a little of the friction in our every day

business is due to ill-working natures as well as to ill-working machinery.

We come to our morning tasks bristling all over with the little worries of life. Perchance the unreasonable wife has asked us to build the morning fire, to get a hod of coal, or hang out the clothes-line, and having no time to go to Greendale for balm, we fly for refuge to the office, needing to have seven devils cast out of us, before we venture among the wires, but alas, electricity itself does not run more easily over the wires than these same little devils when they get loose, and then look out for "crosses," "telescoping," and smashups generally.

Your opening message is for some small way station. A "plug" sits there, and you know it well; a timid, apprehensive plug, generally trembling, and always excited to fever heat by rapid writing.

This very fact is to you a vexatious challenge in itself; you are not mentally "adjusted" for that plug, and you don't mean to be; every adjusting spring of your nature is out of order. No courteous "good morning" precludes your message, and you send it as to a champion fast receiver; the tremulous "repeat" is as the whip in the ear of the horse, starting him up to a more rapid pace. The ball has opened, and now is the time to bet on the results or turn away our thoughts to less exciting topics.

But if, like the true and valiant policeman, we advance to see what is left upon the field after the affray is over, we shall be very likely to find an aching head if not revengeful heart at that way station, and a veritable snarling cur somewhere else, who might have transmitted his business with far less delay, and immeasurably more credit to himself, by a little exercise of self-restraint and an occasional adjusting of that inner spring, on which so much depends.

Nothing like patience and kind encouraging words; they fall upon the trembling plug like rain upon the drooping potatoe bug.

We are told that the millenium is due here shortly. I never saw a millenium, but from what I hear of its habits and peculiarities, I think it doubtful about its making its head-quarters with the Western Union Telegraph Company, not at least as things are now. Therefore—Resolved, that we hold out a little inducement to the millenium, by having our individual natures pitches on the same key with that of the millenium, which is, to wit, namely—A constant, unvariable kindness towards all.

Even to that detestable vulgar cur who told you to "send with the other foot" when you were "salting" him.

Patience—Even with that ignorant boor who waited till you had reached the signature of your message before saying "it don't come."

Politeness—Even to that low bred parvenue who asks you now and then "why don't you space?" who snatches the circuit in the middle of a message with a surly "git," who says "I didn't" when you know he did, who calls you every few moments, and says "take this" when he has nothing to send, who—

(Its no use; I must send another paper on this subject. Alps on Alps arise, and I must calm myself.)

ONEY GAGIN.

"ELECTRICITY ON TAP?"

The Woes of a Down-East Dentist.

PHILADELPHIA, Oct. 27, 1875.

To The Editor of The Operator.

Don't talk to me of your laughing gas, chloroform ether, nitro glycerine or duulin for the painless extraction of teeth! That man down in Skowhegan has hit it!

You see he had thought long and deeply on the subject, wanted something of the kind bad enough, but hadn't the necessary stamps, and what to do he didn't know, when one day a bright idea struck him.

"Electricity! that's the thing! my fortune's made!" and as luck would have it, it was right at hand, all ready cooked so to speak, right before his door—and no expense for batteries or Rhumkord coils. The telegraph wire ran by, within easy reach from his window, and what would be easier than to tap that, run it into his operating room, up to his chair of torture, and blaze away on the unfortunate and unwary victims of the toothache? The company would furnish an unlimited supply of the potent fluid, his expense would be "nihil," and who would be the wise? No sooner thought of than accomplished. In the dead of night a slim limbed chap might have been seen, coatless, hatless and breathless, struggling up that pole in the old fashioned way, hugging the ragged bark like a long lost brother and clinging tooth and claw in sheer desperation, until, after sundry sudden and emphatic descents, the top was reached, a fine wire attached and passed to the window, and lo! the deed was done. The next day the sober and staid Skowheganers gazed with awe and admiration on a span new and gorgeous sign which informed the admiring multitude that here held forth

"J. SMITH,

TOOTH CARPENTER!

Lungs hoisted without pain by a new and improved process which has never been known to fail! Laughing gas is danger us! Beware of ether and chloroform! Step in and have your roots dug out and be happy!"

Each beholder went prodding around in his cavernous mouth (they never cut pies down there, don't need to) in search of a decayed tormentor, and turned sadly away as the examination proved fruitless, while slim Smith stood at the window above, with diploma in one hand, and a murderous looking pair of tongs in the other waiting patiently for a victim.

Alas! how much better for him had the victim never come; but, unfortunately, in due course of time he did, and poor Smithy's doom was sealed. The stairs creaked beneath a hesitating but ponderous tread—Smith bustled about with his napkin and spittoon—the coming man paused and then took two steps downward. Smith frowned and banged the window down. An extra twinge faced old corporeity about again and elevated him three steps higher. Smith patte the forceps fondly and smiled a ghastly smile.

With a slam and a jar the door burst open and disclosed two hundred and fifty pounds of suffering humanity, jaw tied up, face swollen and tooth just riding all around inside his head, who strode in in the desperation of despair, flopped into the chair and shouted through the mixture of camphor, creosote, oil of cloves and tobacco with which his mouth was filled, "Hist her, blast yer, and be derved quick about it, too!" Well! you should have seen Smith then! Happy? just boiling over with bliss, as he clapped the wire onto the forceps, the forceps onto an old double barrelled, eight pronged molar on the lower jaw, one of the "just-elevate-me-from-this-anchorage-if-you-can" kind, and—

The tooth didn't come just then. You see, the floor happened to be a little damp and Smith made a tip top "ground" and got about as much of the juice as the victim, and as Damariscotta had just requested Bryants Pond to "skip the wire and hire a ham," the insulted one's reply of "Soj you hed you gluz, I'd go pang if I was U!" came with telling effect through the nerves of each and set up a spasmodic jerking on the part of Smith and a howling from old adiposity that was cheerful to behold, while Portland breaking in with orders for repairer to find that escape, delivered in Kilmartin's disastrous style, didn't help matters a bit, but induced a St. Vitus' dance from Smith and prolonged war whoops of anguish from the chair.

At last as matters were drawing to a crisis, the artist at Skowhegan opened his key and essayed to call Portland, eighteen dots to every "P" and sixteen "P's" in a string. That was the last straw! A frantic jerk for separation or death, between dentist and victim, an abrupt cessation of hostilities and crash of a backward falling chair—and Dave Stone, the repairer, coming on the scene, gazing at the wreck of tools and furniture and the prone and discouraged forms of Smith and victim, flat on their backs on opposite extremities of the floor, turned his quid over into the other cheek, and, in sheer amazement, simply remarked "Well! I swan!"

NUP CED.

An Unsettled Question.

NEW YORK, Oct. 21st.

To the Editor of The Operator:

One of the ladies tell me J—se St—t is the handsomest man in the "NY" office. Is that so? and would you please introduce me. Yours Truly,

A LADY.

[The above is a verbatim copy of a letter received at this office. This question has never been decided, but if our fair correspondent will furnish us with her name and address, as a guarantee of good faith, we will endeavor to have a competent committee appointed to put the question at rest, after which we will comply with her request.—ED.]

best adapted for use on private telegraphs may be divided into two classes, the type printing and the dial. Type printers are generally preferred to the dial instruments because the latter do not make any record, the message being read as the pointer revolves on the dial and stops at the desired letters.

The printing instrument, of which a general view is given in the engraving, is the invention of Mr. George L. Anders, of Boston, Mass., and was patented October 28th, 1873. It has also been patented in Europe.

It is operated by magneto-electric currents which are generated by induction from permanent magnets. A portion of the magnets can be seen projecting below the table at the right. Between the poles of the permanent steel magnets, which are made in a horse shoe form, is an armature, or bar, of soft iron, which is cut out longitudinally on opposite sides, and wound with covered copper wire. This armature is rotated by means of the treadle and each revolution gives a positive and negative electric current, which are transmitted to the electro magnets of the printing apparatus shown on the top of the table. The type wheel is shown on the outside or front of the case with the printing pad under it and the ink roller over it. The paper on which the messages are printed is moved along between the type wheel and printing pad by the action of the latter. Both the type wheel and press are actuated by clock work impelled by a spring.

In transmitting a message, the armature is rotated rapidly by the working of the treadle, and the electric currents generated thereby are transmitted to the electro magnets of the printing apparatus, by which the wheel is made to rotate until it is arrested by pressing down the key having the desired letter, when that letter is printed on the strip of paper, and so the message is spelled on the keyboard and simultaneously printed on paper by each instrument on the line.

The advantages claimed by the inventor and manufacturers for these instruments over other printing telegraph instruments are the following, viz. The saving of the trouble and expense of batteries. 2nd, Greater rapidity than has been attained by any battery printers. 3rd, Great reliability. 4th, That, being very simple in construction, they can be easily kept in order by persons who are not professional telegraphers.

These instruments are manufactured and sold by Welch & Anders, 30 Hanover street, Boston, Mass., whose advertisement appears in this number of THE OPERATOR. They can be seen in operation at the Fair of the American Institute in this city.

"Still They Prosper."

"Billy" Shannon, a well known telegrapher for many years stationed at Punta Risi, Florida, has returned to his home in Newark, where together with Jabe and Fred Perry, agents of the Atlantic and Pacific Telegraph Company, he has purchased the right for the County of Essex of the Danvers Telegraph Company's system. They have put up about one hundred miles of wire and have secured at this time about two hundred subscribers. The officers of the local company which they have formed are as follows:

ALEX. A. NORCROSS
Pres.

J. M. NORCROSS
Vice Pres.

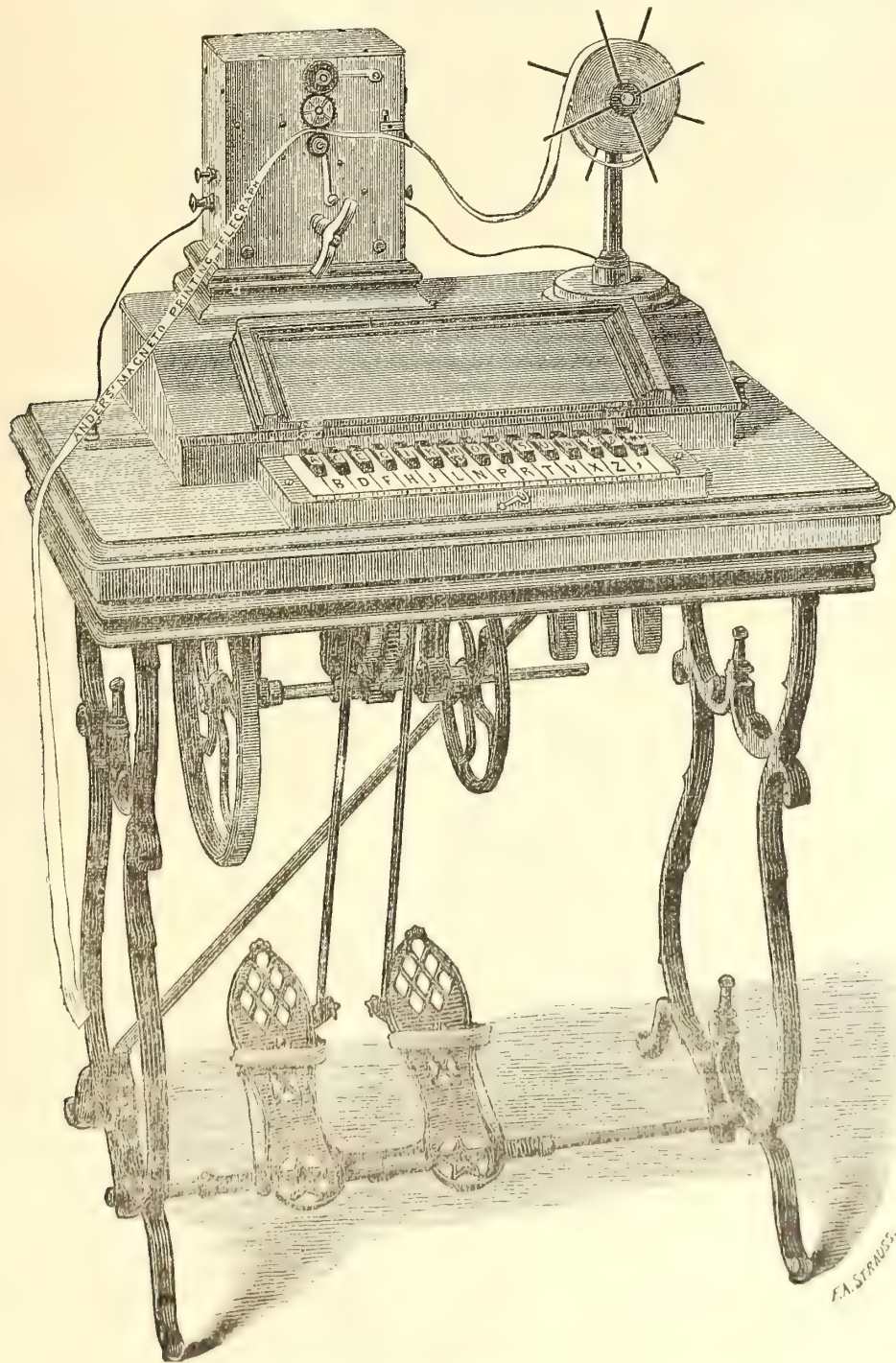
P. T. FEAREY

Sec. and Treasurer

J. FEAREY
Supt.

W. W. SHANNON
Asst. Supt.

They seem confident of success, and we only hope they may exceed their greatest expectations, and that we may soon be able to add their names to the list of telegraphic millionaires.



Anders' Magneto Printing Telegraph Instruments.

The extensive demand which has grown up with in a few years for private telegraph lines is a marked feature in modern telegraphy. The great convenience and even necessity of a communication of this kind by which any manufacturing establishment, or other business, comprising two or more distinct departments situated at a distance from each other are practically brought together is too

apparent to require discussion. Until a comparatively recent period, the principal obstacle to the rapid multiplication of this class of lines, has been the want of instruments adapted in all respects to meet the requirements of this class of telegraphy. Instruments intended for this purpose should be simple in principle and mode of manipulation, and easily comprehended and operated by persons having no special knowledge of telegraphy in general. The instruments which experience has shown to be

Dominion Telegraph Company.

MONTREAL, C., Oct. 25th, 1875.

As I seldom see anything in your paper from our part of the universe, I will endeavor to give you a few items of interest.

Mr. C. R. Hasmer is our superintendent of the eastern division and is also manager of this office. In the latter position he has Mr. Joseph Queleh as assistant. Mr. G. T. Boulet is our chief, and is ably assisted by Mr. A. S. Hawkins, an old timer, whom perhaps many of your readers will remember during the "late unpleasantness." He holds up this end of Ogdensburg and Kingston wire.

Our lady, Mrs. M. M. Morphee, "M"akes it warm for Quebec and Three Rivers, and is a very "a"miable person and is highly respected by all who have the pleasure of her acquaintance.

Mr. John Fletcher "J"oins in running the Toronto duplex with Mr. Wm. Duchesneau, who "D"rives things around in a lively way quite astonishing to the uninitiated. Mr. W. Demsey always "x"pects to roast the Ottawa boys, over which circuit he presides.

We have thought of sending him to the Philadelphia telegraphic tournament as our representative, as he claims he can "frite geese" faster than any man in Canada.

Mr. Geo. Dooner, a very promising youth, and Mr. W. Sanderson, a new arrival, run the city wire, and are "O"ften "S"een helping the other boys out. Mr. Bert Smith "C"ares for the Buffalo C. N. D. wire, and with Mr. J. Fletcher works alternate nights as report operator.

Mr. W. J. Campbells sits in the bookkeeping department, and with Mr. J. W. Anderson keeps affairs moving along smoothly.

Our copper plates are slung around by Messrs. W. R. Brian and J. J. Foley. Monsieur Papineau is cashier, and is never happy unless he gets at least 7 "ag" checks per day. Mr. J. W. Lester is delivery clerk, and Mr. Thomas J. Kelly is night sheet boy.

Mr. R. E. Matthews, hailing from Pennsylvania I believe, worked here for a few days at the first of the month, and then disappeared. He said it came Elias H. Lin, but caved when the original Ed. H. Ashley turned up. Then they couldn't find W. 4 Vanderbilt, but W. Vanderbilt wasn't far off. M. R. Gregory, glass works, was found to be Mr. Gregory Glassford. Next was Eddy & Tate, but they found the estate after all. N. M. in; have sent boy for more copy.

G. U. IBORD.

The Election Returns in the Quaker City.

PHILADELPHIA, October 27, 1875.

To the Editors of the Operator:

The Philadelphia, Reading and Pottsville Telegraph Co., have perfected their arrangements for receiving and transmitting the returns of the election which takes place here on Tuesday next, Nov. 2nd. All their offices along their lines comprising Philadelphia, Chester, Delaware, Montgomery, Berks, Schuylkill, Lehigh, Lycoming, Lancaster, Lebanon, Dauphin, Columbia, Montour and Northumberland Counties, will be open for business and will transmit returns of the election for both of the great political parties. In a majority of these counties the fight is particularly bitter and a heavy business is confidently anticipated. In Philadelphia every arrangement is being made to facilitate the prompt handling of the business and the most complete attention is being given to all the details and we predict that our returns will be the fullest and best received in this city. Offices will be opened at both the Democratic and Republican headquarters, manned by competent men, extra force will be employed at the main office and there bids fair to be the most reliable and accurate reports re-

ceived this fall that have ever been received in Philadelphia. The arrangements are in the hands of our efficient manager, Mr. O. W. Stager, which is in itself a guarantee of their character.

Yours truly,

NICK O'TINE,

DOMESTIC NOTES.

Hank Cowan will not be at the meeting of Nov. 15th; therefore every member should be present.

Electricity is shocking to take, and a little of it goes a long way, telegraphically speaking.

In the United States there are about 185,000 miles of telegraph lines, while in England there are only about 24,000.

We are reorganizing our agency system, and would be happy to receive the names of any of the fraternity throughout the country, who would be willing to act for us.

The International Ocean Telegraph Company's new cable between Punta Rasa and Key West was successfully laid from the Western Union steamer "Prof. Morse," and completed Monday Oct. 11th. The new cable is in excellent working order and induction perfect.

It is said that a telegraph messenger boy has been arrested and held in the house of detention in this city, not for any breach of the peace, but because he accidentally witnessed a dastardly deed perpetrated by one of our city officials. The official feared the boy's evidence and consequently had him put out of the way.

The recent invention of Elisha Gray, by which sixteen or more messages may be transmitted each way, at one time, over one wire, promises wonderful results in the future. It indicates that the time is coming when household and private telegraphic lines will become as common as the existing method. It is one of the peculiarities of Mr. Gray's remarkable method that while sixteen different persons may use the wire, none of their messages need interfere with or become known to any of the other users, save the sender and his designated correspondent.

The following is taken from the *Newark Daily Advertiser*:—Mr. Theodore Williams, of the Fifteenth ward, is a prominent candidate for the position of Superintendent of the Fire Alarm Telegraph under the new Council. Mr. Williams is a practical telegrapher, and for a long time was in the Western Union Telegraph Company's office in this city. He is at present in the employ of the company in New York City, but resides in Newark. He is an old landmark of the New York main office, and there is not a man that has been employed in New York for the past eight years but will be pleased to hear that another one of the "boys" is in a fair way to be advanced in position. "Go in Theo. and may success attend your efforts."

The *Scientific American* in speaking of the National Telegraph Company of California says:—A new organization entitled the National Telegraph Company, with a capital of \$25,000,000, has been organized in California, and it is to be hoped that it will meet with success. But this it can only hope to achieve by improving the existing service. If it can send messages as promptly, at no greater prime cost than that now paid by the present companies, it may secure a share of the business. But this will be up-hill work in the face of the admirable management of companies like the Western Union, which are constantly striving to improve every branch of their service, and quick to adopt every practical improvement that inventors present.

Early last Sunday morning, two carpenters entered the operating room of the new building, each

carrying his kit of tools. The men naturally supposed that they were about to remodel the whole room. After hammering and sawing for about three hours, much to the annoyance of the operators, they completed a scaffold in the rear end of the room, that part occupied by the city wires, by this time all sorts of rumors were afloat. Some would have it that they were only going to repair the walls, which had been reported cracked; others persisted that they were about to newly fresco Mons. Weller's Egyptian sky, when suddenly a man mounted the scaffold, opened the clock, removed its internal workings, and vanished into that obscurity from whence he came.

Men who send good square, solid Morse are born, not made; and it is a wonderful thing how very few are born.

MARRIED.

By the Rev. C. S. Haman, at the residence of the bride's parents, Oct. 19, 1875, Oscar B. Wetherhold, of P. R. and P. extra force, to Miss M. Alice Reinicke, both of Reading, Pa.

OBITUARY.

Ossie's went and gone and done it,
Signed his will to many a bonnit,
Stood right there and said I DO!
Short but sweet, I think; don't you?

Yes, Mr. Printer, put this in too—
Departed this life, aged twenty two.

DIED.

CAUGHLY.—Oct. 10, at Mount Vernon, Belfast, (Ireland), William John, eldest son of Mr. Wm. Caughy, Elgin, Ill., aged 21.

"Oh! what a shadow o'er the heart is flung,
When peals the requiem of the loved and young!"

The deceased was manager of the Chicago office of the Chicago and Pacific railroad up to within a few months of his death, and was well known and highly esteemed all along the road. He contracted a severe cold during last winter, and his lungs becoming affected, the doctor recommended a trip to Europe. He sailed from this city, August 21st, in the S. S. Adriatic, intending to return early next Spring. But such was not to be the case. On Sunday October 10th, while visiting some friends in Belfast, his spirit winged its flight, let us hope to a brighter and a happier world, and they consigned what was once ambition's airy hall, the dome of thought, the palace of a soul, to "The knell, the shroud, the mattock and the grave, The deep, damp vault, the darkness and the worm!"

It is with feelings peculiarly sad that we record poor "Cy's" death. He was one of our earliest personal and professional friends. Always kind, good natured, solicitous for the comfort of others, he won the respect and esteem of every one within the circle of his acquaintance. His parents and family have our kindest sympathy.

Attention, Operators!

Here is just the thing for the long Winter evenings.

"THE PANTECT,"

Or Universal Worker,

An entirely new combination tool, for amateurs and learners.

A FOOT LATHE, SCROLL SAW, CIRCULAR SAW, and BORING MACHINE all in one, and

ALL FOR \$40.

Send for full descriptive Circular and Price List to
EDWARD O. CHASE,

No. 7 Alling Street, Newark, N. J.



GILLILAND & CO.,

Manufacturers of and Dealers in

Electrical and Telegraphic MACHINERY.

SCIENTIFIC APPARATUS A SPECIALTY.

We manufacture and keep constantly on hand

STANDARD GALVANOMETERS,

CONDENSERS,

RESISTANCE COILS,

ELECTROMETERS,

MIRROR GALVANOMETERS,

INDUCTION COILS,

SIEMEN'S INK RECORDERS.

We also manufacture a full line of

TELEGRAPH INSTRUMENTS,

made from Western Union Patterns, first-class workmanship, having all the latest improvements, embracing

COMPOUND MAGNET ADJUSTING SCREWS.

SLOTTED CORES.

INSULATED ARMATURES.

Each Instrument carefully tested and warranted.

The resistance of Relays accurately measured and stamped upon them.

Our RECORDERS are unsurpassed for beauty of style and workmanship, and have an improved attachment by which they can be wound up while running, and not interfere with their working.

OUR AMATEUR APPARATUS

consists of two styles of Sounders and Keys, mounted either on Iron or Rosewood Bases.

THE EDISON INK RECORDER

is also recommended for learners, and for PRIVATE LINES it has no equal.

EDISON'S INDUCTORIUM,

A Powerful Induction Coil for Medical and Family Use.

ANNUNCIATORS,

For Hotels, Factories, Private Houses and Elevators,

ELECTRICAL WATCHMAN'S TIME RECORDER,

Cheap and Efficient.

POLARIZED RELAYS,

SIGNAL BELLS,

OFFICE CUT-OUTS,

SWITCH BOARDS,

BATTERIES,

OFFICE & LINE WIRES.

*Send for Prices before Purchasing
elsewhere.*

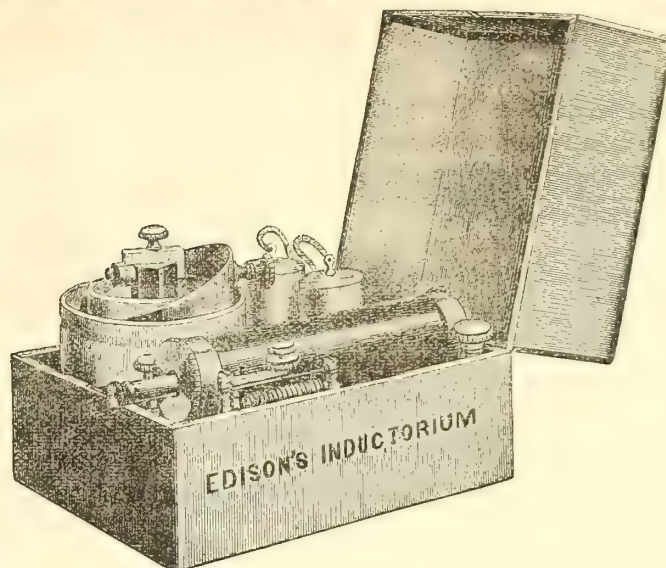
Very Liberal Discount to the Trade.

GILLILAND & CO.,

41 DEY STREET,

NEW YORK.

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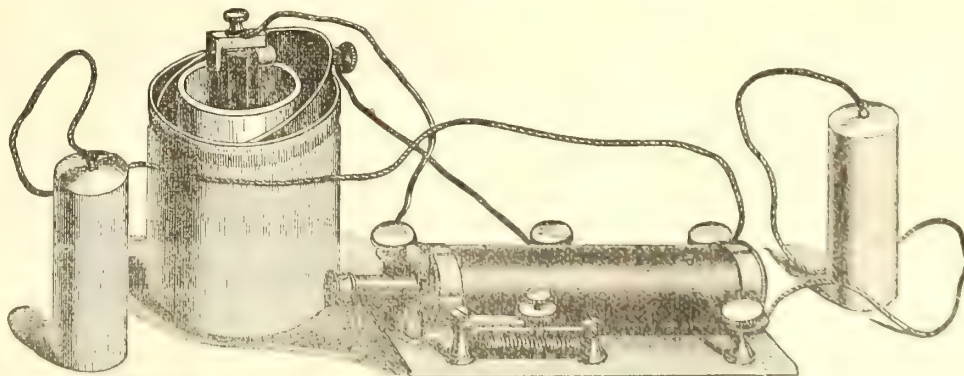


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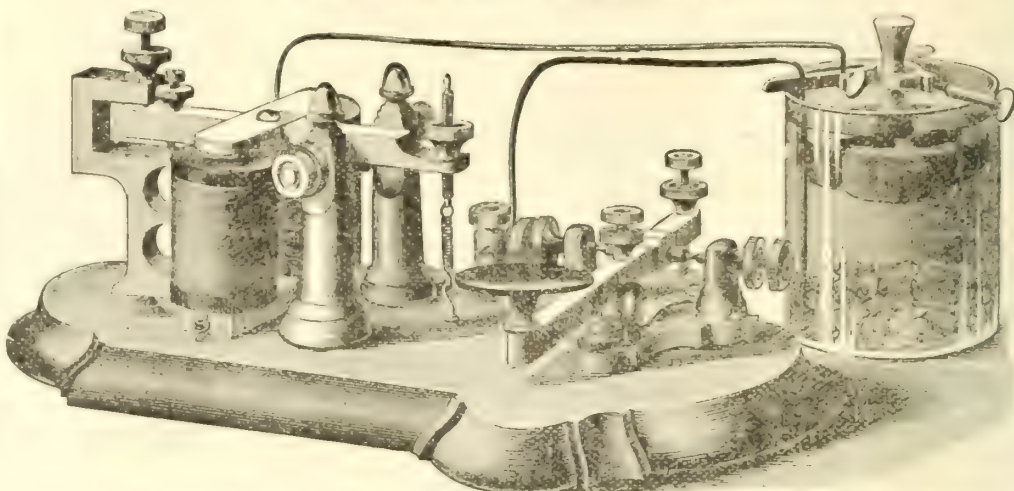
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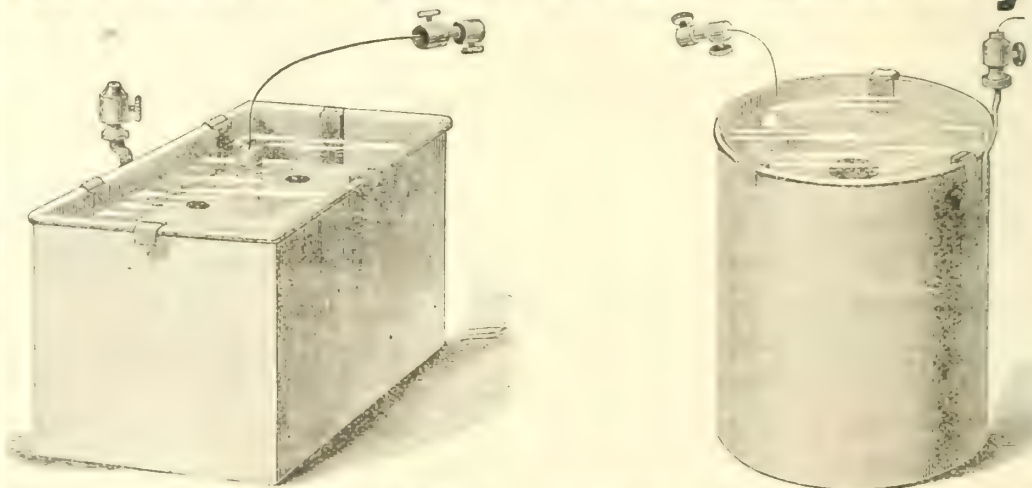
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The Telegraph Operators' Journal.

VOL. IV.

NEW YORK, NOVEMBER 15, 1875.

No. 6

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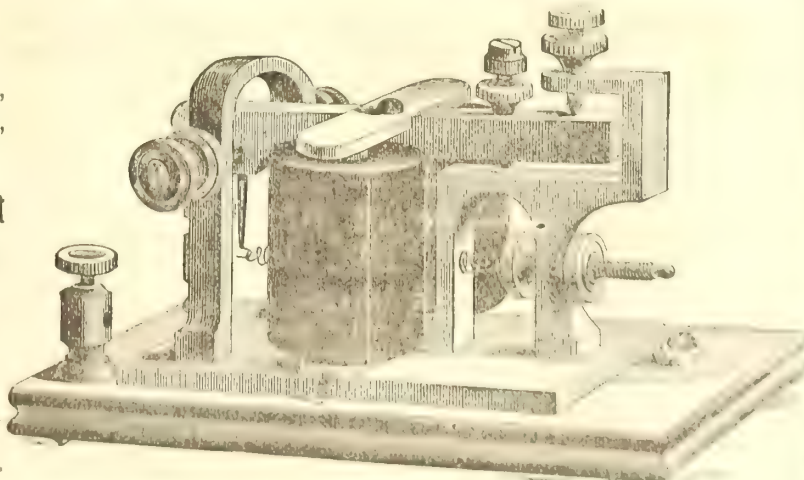
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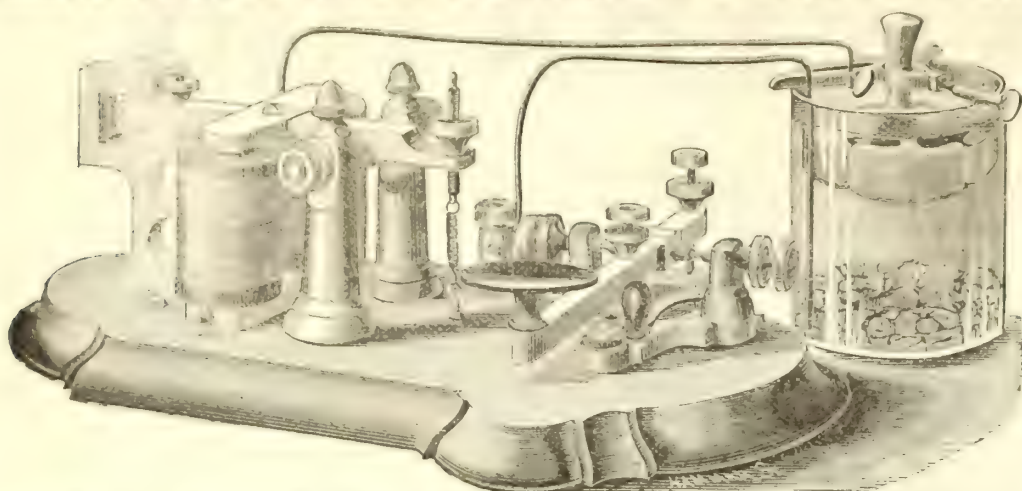


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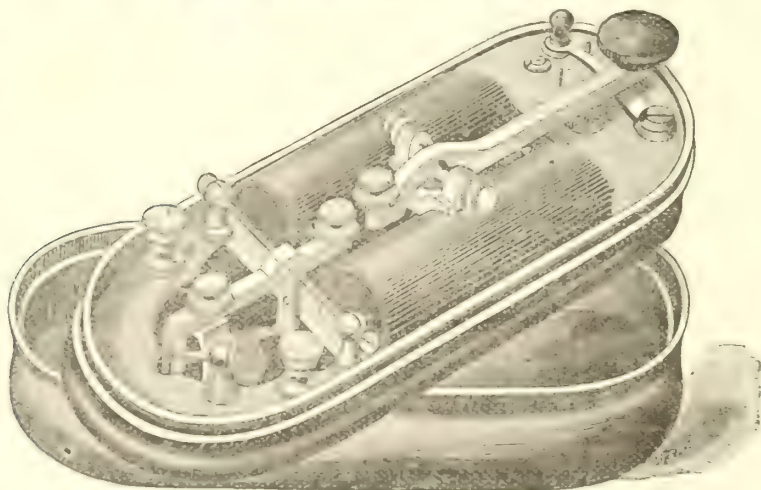
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The Publishers, in announcing the Fourth Volume of *THE OPERATOR*, which commences with the number for Sept. 1, 1875, desire to return thanks for the liberal support which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue as heretofore to labor for the best interests of the Telegraphic Fraternity, and the advancement of Electrical Science and the Telegraphic Art.

As heretofore, no labor, time or expense, warranted by the patronage received, will be spared to improve its character and add to its interest, and to sustain its reputation as the only first-class Electrical and Telegraphic Journal upon the American Continent.

On Quadruplex Telegraphy.

As furnished by George B. Prescott, Electrician W. U. T. Co.

The simultaneous transmission of two telegraphic communications in opposite directions upon the same wire, now known the name of duplex telegraphy, dates back to the year 1853. The first to conceive of its possibility as well as the first to carry the conception into practical effect, was Dr. Wilhelm Gintl, Director of State Telegraphs in Vienna, Austria. He describes his method in a paper read by him before the Vienna Academy of Sciences on the 9th of June, 1853, and in July of the same year it was put in practical operation between Prague and Vienna.

In March of the following year Carl Frischen, a telegraphic engineer of Hanover, Germany, improved upon Gintl's plan, by making use of a branch current from the main battery for compensating the effect of the outgoing current upon the home relay, instead of a local current employed by Gintl. This is unquestionably the most important improvement which has been made in duplex telegraphy from the time of its original invention by Gintl down to the time of the addition of the condenser by Stearns, in 1872.

Frischen used a different relay having helices composed of two equal parts and opposing wires, and an artificial or rheostat equal in resistance to the main line, substantially as they are used at this day. His first practical experiment was made between Hanover and Götting on the 26th of May, 1855.

The labors of Frischen, and of Siemens and Halske, of Berlin, who during the same year, independently but subsequently worked out a method almost precisely similar to Frischen's, brought the system of simultaneous transmission in opposite directions to a state of perfection which answered a very good purpose upon the comparatively short lines, and at the slow rate of transmission in vogue at that day.

The success of these ingenious inventions gave an entirely new direction to the minds of the host of enterprising electricians on the continent of Europe, and during the following year, 1855, the problem of simultaneous transmission in the same direction which naturally suggested itself as the next step in the progress of invention, was solved with more or less success by the independent labors of Dr. J. B. Stark, of Vienna, Dr. Werner Siemens, Dr. August Kramer and A. Bernstein, of Berlin, and Dr. J. Bosscha, Jr., of Leyden; each of these inventors having published a full account of his method in the latter part of 1855 and the early part of 1856. At least two of them, Stark and Bosscha, clearly saw that the successful solution of the difficult problem of simultaneous transmission in the same direction included, as a necessary consequence, the solution of the problem of quadruple transmission also; for a knowledge of the invention of Gintl, as perfected by Frischen, was all that was needed to show that it was equally applicable either to a single or double telegraph in one direction. In the first published description of his method, dated at Vienna, October 31, 1855, Stark concludes as follows:

"With the method of double transmission in the same direction we may also combine that of counter transmission (gegenseitigen), and hence arises the possibility of simultaneously exchanging four messages upon one wire between two stations which will, however, hardly find any application in practice."^{*}

This is unquestionably the earliest published suggestion of what is now known as the quadruplex system.

Dr. Bosscha, in a description of his system read before the Royal Academy of Sciences of Holland, on the 27th of October, 1864, and published in their transactions, Vol. IV, p. 101, not only makes the same suggestion, but sets forth in detail a method of accomplishing the result. Having described his method of double transmission in the same direction, he says: "Now, if we wind each of the receiving relays with two wires, and divide the current at the sending station, according to the plan of Siemens and Halske (Frischen), through the two coils of the home relay in opposite directions, then it becomes practicable for both stations to transmit at the same moment, without their own relays being affected by their own transmitted currents, and it is possible to send four signals simultaneously through one wire. This solves the problem in its largest generality."

Thus Stark and Bosscha, as early as 1855, both recognized the indisputable fact that the production of a successful method of quadruplex transmission depended solely upon the successful solution of the problem of double transmission in the same direction. If this could be accomplished, it becomes a mere matter of mechanical detail to combine with it Frischen's or any other system of counter transmission.

It has been stated that methods of double transmission in the same direction were worked out independently, but almost coincidentally, by a number of inventors during the year 1855. The ingenious and active German electricians, recognizing that the accomplishment of this result was the key to simultaneous quadruplex transmission, had diligently labored at the problem. Let us now consider the result of their labors.

In any system of simultaneous double transmission in the same direction two keys are required at the sending station, and at least four different electrical conditions of the line must be provided for, one for each of the four following cases:

1. When the first key is closed and the second key open.
2. When the second key is closed and the first key open.
3. When both keys are closed.
4. When both keys are open.

The methods of Stark, Siemens and Bernstein (No. 1), though varying in detail, were arranged upon one general principle, the four electrical conditions of the line being as follows:

1. A positive current having a strength of 1.
2. A positive current having a strength of 2.
3. A positive current having a strength of 3.
4. No current.

The methods of Bernstein (No. 2), Bosscha and Kramer, and at a later date those of Schröder (1860), and Miron (1862), were arranged upon another and better principle, as follows:

1. A positive current having a strength of 1.
2. A negative current having a strength of 1.
3. A positive (or negative) current having a strength of 2.
4. No current.

There are two serious difficulties, leaving minor

ones out of consideration, which are inherent in every system of simultaneous double transmission in the same direction. In the first place, when either key is passing from its front to its rear contact, it causes a momentary interruption of the signal which is at the same time being transmitted by the other key.

Neither Stark nor Siemens suggested any means of overcoming this difficulty. Bosscha and Kramer made use of a device originally invented by Gintl,* viz., that of keeping the battery constantly in the main circuit, but shunted by the key, so that when the latter was depressed the short circuit was broken and the current flowed to line, but when raised the battery was again short circuited. This plan effectually disposed of the difficulty in question, but was injurious in its effect upon the batteries. Bernstein, however, hit upon the method now in use, that of providing each of his keys with a spring so arranged as to close the front contact at or before the time of interrupting the rear contact. This difficulty was, therefore, effectually removed as early as 1855. The second difficulty is a still more serious one, and arises in the following manner: In the simultaneous operation of the apparatus there must, of necessity, frequently be a change from a positive to a negative condition, or *vice versa*, of the line, and of the relays or receiving instruments, consequent upon the movement of a single key; yet it is evident that the reversal of the magnetic polarity of a receiving instrument by the action of one key must interfere with a signal which is being given upon it at the same time by the action of the other key. This difficulty is met with, in some form, in every arrangement of the receiving instruments. Stark employed three neutral relays, adjusted to varying degrees of sensitiveness, in one arrangement, and two polarized and one neutral relay in another, as did also Bosscha and Kramer. Bernstein used a single relay with three armatures, of varying adjustment. Neither Stark nor Siemens suggested any method of remedying this defect, and, judging from his published paper on the subject, the latter evidently considered it an insurmountable one. Bosscha, Bernstein and Kramer, by making use of different modifications of the same principle—that of operating the recording instrument or sounder by the opening of a shunt circuit as the first and last had already done with the main batteries, and by working from the rear instead of the front contact of the receiving relay—theoretically succeeded in surmounting this obstacle. Practically, however, the method of operating a recorder or sounder by closing and breaking a shunt is a very unsatisfactory one. It not only exhausts the local battery with great rapidity, but the demagnetization of the iron cores takes place with far less rapidity when the battery is cut off by a shunt, even a very small resistance, than when it is completely interrupted by breaking the circuit in the usual way and this renders it impossible to receive and record the telegraphic signals with the rapidity that is necessary in modern telegraphy.

When these methods came to be tried on lines of a length exceeding 100 or 150 miles the interference of the static discharges was superadded to the already existing difficulties, and for these reasons the results were, on the whole, so unsatisfactory that the subject remained in abeyance for many years. The subsequent labors of Schröder, Wapmann, Miron, Schenk and Ziesche, between 1855 and 1863, though exhibiting great ingenuity and research, added little or nothing of practical value to what had already been done by the earlier inventors in the same field.

The revival of the duplex system in America and

*Brex's Journal, 11, 224.

*Brex's Journal, 11, 155.

its extensive introduction into practical use, both in this country and Europe, resulting from the improvement of the J. B. Stearns, notably his method of using the effect of the static discharge from the line in the application of the condenser, which was first made in the winter of 1871-2, and which has since attracted the attention of electricians to the problem of simultaneous transmission in the same direction.

In a paper published in the *Philosophical Magazine* of June, 1872, Dr. H. E. Heavyside, of Newcastle-on-Tyne, England, pointed out, as Stark and Bosscha had done before him, that the invention of a system of simultaneous transmission in the same direction furnished at the same time the solution of the problem of perfect transmission. He says: "It is theoretically possible to send any number of messages without simultaneously and in the same direction upon a single wire. Now, by combination with a null duplex system it becomes obviously possible to send any number of messages in the other direction while the opposite correspondences are going on and without interference. Thus the working capacities of telegraphic circuits may be increased indefinitely by suitable arrangements. From experiments I have made I find it is not at all a difficult matter to carry on four correspondences at the same time—namely, two in each direction,

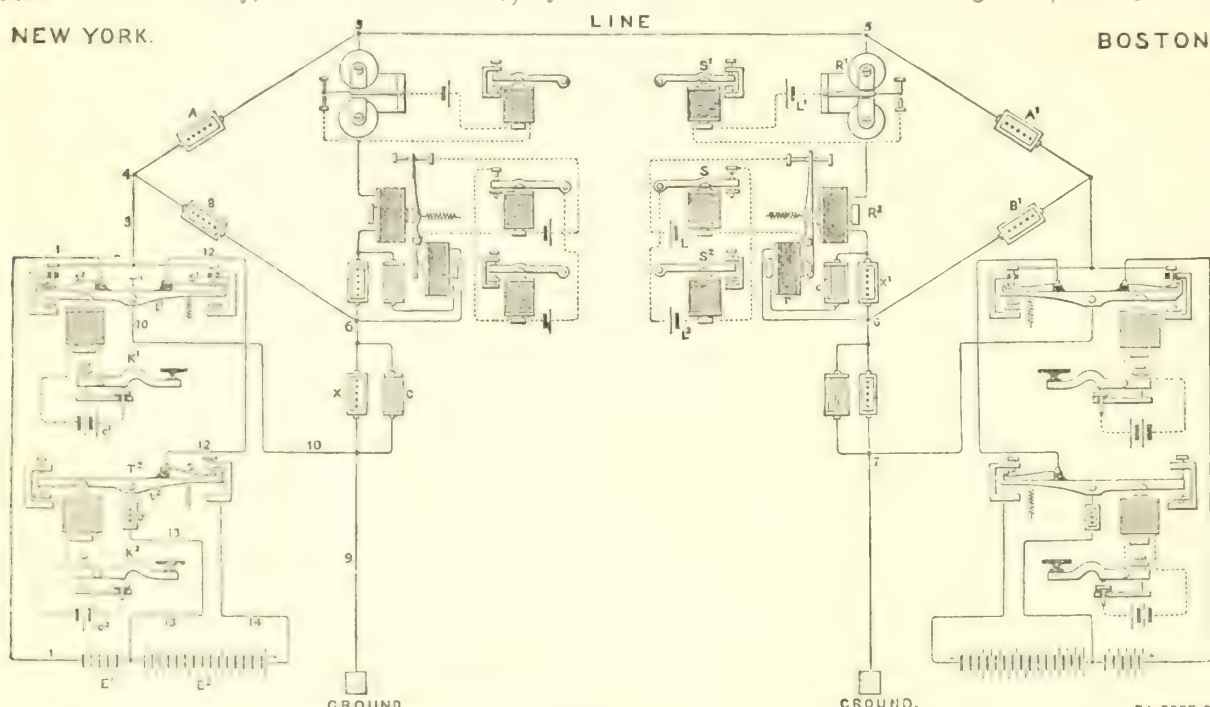
where it is known as the double current system, and the other is the single current or open circuit system, used on the continent of Europe. In the double current system the battery remains constantly in connection with the line at the sending station, its polarity being completely reversed at the beginning and at the end of every signal without breaking the circuit. The receiving relay is provided with a polarized or permanently magnetic armature, but has no adjusting spring, and its action depends solely upon the reversals of polarity upon the line, without reference to the strength of the current. In the single current system, on the other hand, the transmission is effected by closing and breaking, or increasing and decreasing the current, while the relay has a neutral or soft iron armature, provided with a retracting spring. In this system the action depends solely upon the strength of the current, its polarity being altogether a matter of indifference.

It will therefore be apparent that, by making use of these two distinct qualities of the current, viz., polarity and strength, two sets of instruments may be operated at same time on the same wire. This method possesses, moreover, the important practical advantage that the action of each of the two receiving relays is perfectly independent. Each receiving operator controls his own relay, and can adjust it to suit himself without interfering with

T1 is a double current transmitter or pole-changer, operated by an electro-magnet, local battery *e1*, and finger key *K1*, in a manner well understood. The office of the transmitter T1, is simply to interchange the poles of the main battery *E1* with respect to the line and ground wires, whenever the key *K1* is depressed; or, in other words, to reverse the polarity of the current upon the line by reversing the poles of battery *E1*. By the use of properly arranged spring contacts, *a1 a2*, this is done without at any time interrupting the circuit. Thus the movement of the transmitter T1 cannot alter the strength of the current sent out to the line, but only its polarity or direction. The second transmitter T2 is operated by a local circuit, and the key *K2* in the same manner. It is connected with the battery wire 12 of the transmitter T1 in such a way that when the key *K2* is depressed the battery *E1* is enlarged by the addition of a second battery *E2*, of two or three times the number of cells, by means of which it is enabled to send a current to the line of three or four times the original strength, but the polarity of the current with respect to the line of course still remains as before under control of the first transmitter T1.

At the other end of the line are the two receiving instruments R1 and R2. R1 is a polarized relay with a permanently magnetic armature, which is de-

flected in one direction by positive and in the other by negative currents, without reference to their strength. This relay consequently responds solely to the movements of key *K1*, and operates the sounder S1 by a local circuit from battery L1 in the usual manner. Relay R2 is placed in the same main circuit, and is provided with a neutral or soft iron armature, and responds with equal readiness to currents of either polarity, provided they are strong enough to induce sufficient magnetism in its cores to overcome the tension of the opposing armature spring. The latter, however, is so adjusted that its retractile force exceeds the magnetic attraction induced by the current of the battery *E1*, but is easily overpowered by that of the current from *E1* and *E2* combined, which is three or four times as great. Therefore the relay R2 responds only to the movements of key *K2*



and if we may suppose the growth of telegraphy will be as rapid in the future as it has been in the past, it seems not improbable that multi telegraphy will become an established fact."

During the summer of 1874, T. A. Edison, of New York, N. J., while engaged in conjunction with George B. Prescott, electrician of the Western Union Telegraph Company at New York, in experimenting upon Stearns's duplex apparatus, with a view of introducing certain modifications and improvements therein, devised a system of simultaneous transmission in the same direction which differed materially in principle from any of its predecessors, and which was destined to furnish the basis of the first practical solution of the curious and interesting problem of quadruplex telegraphy.

The distinguishing principle of this method consists in combining together two distinct and unlike methods of single transmission in such a manner that they may be carried on independently upon the same wire, and at the same time, without interfering with each other. One of these methods of single transmission is used principally in England,

the other—a peculiarity that none of the former methods possessed. As soon as this method was practically worked out, it became at once obvious that any of the different methods of simultaneous transmission in opposite directions already in use might be applied to it, as Stark, Bosscha, and others had long ago pointed out, the result of which would be a practical system of quadruplex transmission. This was shortly afterwards done upon the lines of the Western Union Telegraph Company between New York and Boston, a distance of 240 miles, and both the bridge and the differential system of duplex working were tried in combination with it with excellent results. When, however, the apparatus was experimentally tested on a circuit of about 450 miles, the effects of static induction became very strongly marked, and it was found that these could be more conveniently compensated in the bridge than in the differential system. The former was, therefore, decided upon as being better suited to the usually existing conditions than the latter.

The diagram shows the quadruplex apparatus as arranged upon the bridge plan.

and transmitter T2.

The same difficulty which had baffled former inventors arises, however, in this connection. When the polarity of the current upon the line is reversed, during the time in which the armature of R2 is attracted to its poles, the armature will fall off for an instant, owing to the cessation of all attractive force at the instant when the change of polarity is actually taking place, and this would confuse the signals by false breaks if the sounder were connected in the ordinary way. By the arrangement shown in the figure, the armature of the relay R2 makes contact on its back stop, and a second local battery, L2, operates the receiving sounder S2. Thus it will be understood that when relay R2 attracts its armature, the local circuit of sounder S2 will be closed by the back contact of local relay S; but if the armature of R2 falls off it must reach its back contact and remain there long enough to complete the circuit through the local relay S, and operate it before the sounder S2 will be affected. But the interval of no magnetism in the relay R2, at the change of polarity, is too brief to permit its armature to remain on

its back contact long enough to affect the local relay S, and through the agency of this ingenious device the signals from K2 are properly responded to by the movements of sounder S2.

By placing the two receiving instruments R and R1 in the bridge wire of a "Wheatstone balance," according to Stearn's patent of Nov. 12, 1872, and duplicating the entire apparatus at each end of the line, the currents transmitted from either station do not affect the receiving instruments at that station. Thus in figure 1 the keys K1 and K2 are supposed to be at New York, and their movements are responded to only by the receiving relays R1 and R2 at Boston. The duplicate parts which are not lettered operate in precisely the same manner, but in the opposite direction with respect to the line.

In applying this system of quadruplex transmission upon lines of considerable length, it was found that the interval of no magnetism in the receiving relay R2 (which, as above stated, takes place at every reversal in the polarity of the line current), was greatly lengthened by the action of the static discharge from the line, so that the contrivance of the local relay S was not sufficient to overcome the difficulties arising therefrom. A rheostat or resistance, X1, was therefore placed in the bridge wire with the receiving instruments, R1 and R2, and shunted with a condenser *c*, of considerable capacity. Between the lower plate of the condenser and the junction of the bridge and earth wire an additional electro magnet, *r*, was placed, acting upon the armature lever of the relay R2, and in the same sense. The effect of this arrangement is, that when the current of one polarity ceases the condenser *c* immediately discharges through the magnet *r*, which acts upon the armature lever of relay R2, and retains it in position for a brief time before the current of the opposite polarity arrives, and thus serves to bridge over the interval of no magnetism between the currents of opposite polarity.

It will be seen that the combination of transmitted currents in this method differs materially from any of those used in previous inventions. They are as follows:

1. When the first key is closed and the second open, —1
2. When the second key is closed and the first open, $\frac{1}{2}$ or $-\frac{1}{2}$
3. When both keys are closed, $\frac{1}{2}$ or $-\frac{1}{2}$
4. When both keys are open, $\frac{1}{2}$

Here we will also consider the type of hyperbolic paraboloid and cylinder in three dimensions, and the corresponding two-dimensional curves (parabolas and hyperbolas) in the plane. In the case of the hyperbolic paraboloid, we have

The application of one or more of the existing duplex combinations to the new invention to form a quadruplex apparatus followed as a matter of course.

Thus it is clear that the merit of the invention of 1874 consists in its having furnished us with a new and, what is more important, a practical method of simultaneous transmission in the same direction, applicable to long lines, and not in the mere application thereto of one or more of the known duplex systems to form a quadruplex, which, in itself, would no more constitute an invention, in the sense contemplated by the patent law, than would the application of the duplex principle to the printing or dial instrument instead of the Morse, with which it was first used.

As its uses become more and more extended, the quadruplex is constantly undergoing modification and improvement in its minor details, with a view to render its manipulation more simple and easy, and to enable it to be worked between the most widely separated points with the utmost speed and certainty. Some of these modifications are very ingenious and interesting, and will probably form the subject of a future article.

Aniline Black by Electricity.

If we take a strong solution of sulphate of aniline and submit it to the action of two Bunsen elements, employing platinum electrodes, we soon see the positive pole become coated with a violent blue covering, greenish in places, a fact remarked by Letheby. If the experiment is prolonged for 12 or 24 hours, we find fixed to the positive pole a black mass, easily detached. On treating this substance with ether and alcohol, and drying it, there remains an amorphous black body with some greenish reflections, fusible in most solvents. If this body is treated with sulphuric acid, and spread out upon a porcelain saucer, it takes a greenish coloration, but on treatment with alkalis it resumes its jet black color. It is not affected by nascent hydrogen. To ascertain that the production of this blue, due to nascent hydrogen, and not to the platinum employed as electrode, I made use of electrodes of zinc and gold, and in 12 or 24 hours obtained the same black on the zinc, and very little on the gold.

fice, struck him senseless, and then bound and gagged him. The office was robbed of all the money it contained, about \$126. Mr. Luly, the agent, charged Philpot with taking the money and binding and gagging himself in order to deceive the public. Philpot acknowledged it, and told where the money could be found. He was arrested and lodged in jail to await examination.

A Juvenile Inventor.

A bright eyed manly looking young man made his appearance in our office, not long since, with a tin model under his arm, and announced to us the fact that he was an inventor and wanted a patent. We inquired with interest as to the nature of his production. He promptly replied that it was an ice cream carrier, intended to transport that delicacy from the place of sale to where ever it was to be eaten, without danger of melting. After examining his model, we were curious to know how he got a lad came to invent such an article. He then related this story. He was a Firriet telegraph messenger, he said, one of those blue and red uniformed boys whom any one who has an office or shop in his house can summon at any hour, night or day, to go on errands. It appears that a gentleman, desiring to indulge in ice cream on a hot evening, called for our young friend and despatched him for a supply. The weather was warm, and doubtless the tongue of the boy likewise, and so, despite the popularly developed cream, by the time it reached his master it was in a sadly demoralized condition. The gentleman, who had been lax in waiting for the return of the frigid repast, forgetting the fact that it was very explicated, and venturing the truth to be messenger by a telegraph boy, was seething. The young gentleman, in the time of the afternoon, thought was unjust, for he said the messenger was late, and he set to work to have a supply which would, on cooler and similar occasions, be incurring another "blowing up." The result was the ice cream carrier, which is patented and is a grand old thing. It also carries a small tin of salt, having a pump and handle, by which the salt is applied as the cream is being pumped out. It is a very simple and effective contrivance, and is now being sold.

The Operator.

A Journal of Telegraphic Literature.

PUBLISHED BY

WILLIAMS & JOHNSTON.

Volume IV. Whole No. 43.

NEW YORK, NOVEMBER 15, 1875.

TO SUBSCRIBERS.

The OPERATOR is the only telegraphic paper published in the United States; but as we are desirous of increasing its circulation, we will send to all our subscribers, on application, a set of visiting or address cards. The same offer applies to renewal and clubs. The cost of these cards will be repaid the price of a year's subscription, if ordered on receipt of the year's subscription. In all cases, however, the cards will be sent free of charge.

In addition to the above we offer the following prizes for clubs.

For a club of 10 yearly subscribers, we will send one copy free for one year.

For a club of 8 yearly subscribers we will give a first class Inductorium.

For a club of 12 yearly subscribers, we will give a first class Morse Key, Western Union pattern.

For a club of 15 yearly subscribers, we will give a first-class Giant Souder or a Learner's set.

For a club of 25 yearly subscribers, we will give a first-class Morse Key, Giant Souder and one year's subscription to THE OPERATOR to the person sending the club.

For a club of 40 yearly subscribers, we will give a good substantial American Silver Watch.

NOTICE.

Telegraphers visiting New York, will, by calling at the office of "The Operator," No. 7 Murray Street, be shown through the different telegraphic institutions of the city.

We are in search of a young system, and would be happy to receive the names of any of the fraternity throughout the country, who would be willing to act for us.

When requesting a change of address, subscribers will please give their former as well as their present address.

We always stop "The Operator" at the expiration of the year, or of the term for which it is sold; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

To our correspondents we would say, please try and have your letters in our hands at least 5 days before publication, or at least less time than this crowd is so ready and we are anxious to give each person a full chance to send the products of his pen in our columns.

"ONE FORTY-FIVE."

On Tuesday last we visited 145 Broadway, a building known in all parts of the United States as "NY," the New York main office. In February last the Western Union Telegraph Co. moved from this old telegraphic landmark to their new building, corner Broadway and Dey street. Since that time old "one forty-five" has been thoroughly refitted, remodeled and very much improved in appearance.

The Atlantic and Pacific telegraph Co. has leased a portion of the building, as already reported in THE OPERATOR, and it is now used as their headquarters. We were courteously received and welcomed by Mr. W. J. Dealy, manager (formerly manager of the cable office W. U. Tel Co.) who explained the different appointments of the office. The first floor is occupied by the receiving and operating departments. Two lady receivers

administer to the wants of the public. The whole operating department can be seen on entering the Broadway floor. The ladies department is at the Broadway end of the room and the switch is at the extreme west. Mr. S. H. Edwards presides at this handsome piece of mechanism. It contains 60 wires and is capable of holding two or three hundred loops. It was designed by President Eckert and manufactured by L. G. Tillotson & Co. of this city, who completed it in six days from the date of the order. The office contains fourteen quantitative tables, eleven perforating instrument and eight automatic transmitters which are used only to the prominent points. There are about seventy employees in this department, sixteen of whom are ladies. All of the male employees are required to wear single-breasted blue coats while on duty. The coat of the managers and chiefs are double-breasted that their rank may be readily distinguished. The neatness of the men is in keeping with the fitting of the room, and together they present a very pleasant appearance. The room is well ventilated making it a fine healthy office. On the whole the office is what has long been needed by this Company and reflects great credit upon its management. The battery room, coat room and messenger department are in the basement. Only twenty messengers are employed here, as all of the A. and P. city office deliver business.

The second floor of the old cable building on Liberty street is occupied as the executive offices. Messrs. A. B. Chandler, Secretary, and D. H. Bates, General Superintendent, appear to be very happy in their new, or old, quarters. President Eckert was out at the time, but we understand his health is much improved. Passing up stairs, we find a part of the old operating room where we spent many a happy day, occupied by the American Press Association, pneumatic tubes connecting them with the operating department. The rest of this floor is used for storing records and papers. Our visit was a very pleasant one, and we tender our thanks to the various gentlemen for their cordial reception.

THE MEMORIAL VOLUME.

We had the pleasure a few days ago of examining the Memorial volume in honor of the late G. H. Mumford, recently completed by G. Adolphus Stimpson, draughtsman in the Electrician's department of the Western Union Telegraph Company. It consists of sixty-nine pages of plain and ornamental writing, with a portrait of Mr. Mumford and, a crest of his family, also a well executed vignette of the Western Union building, together with the monograms of the Western Union and International Ocean Telegraph companies. The volume contains the resolutions of the Executive Committee and Board of Directors of the Western Union, and Board of Directors of the International Ocean Telegraph Company, and the proceedings and resolutions of the business friends and associates of Mr. Mumford.

In an artistic point of view, the book is the most beautiful we have ever seen, and Mr. Stimpson is deserving of much credit for the very handsome manner in which he has executed this elegant volume.

Two copies have been made for presentation, respectively to the widow and mother of the deceased, by his associates, and a few copies are being reproduced, by the photo-lithographic

process, for the friends of Mr. Mumford outside of the family.

OLD TIMERS.

There's a feeling within us that leads us to revert
To the many old times that are gone."

It is sometimes a pleasure to take a retrospective glance through the shadowy past, and call up to memory some of the bright scenes and incidents of long ago. At other times the picture is rather a sad one. We see only the wreck and ruin of hopes that had once been brilliant and promising, and crumbling to decay bright castles in the air that in other days we had cherished so fondly.

The above thoughts were suggested on reading an old letter now in our possession which was penned by an operator then out of employment but who is at present, we believe, working somewhere in Iowa. It was during the palmy days of the Great Western Telegraph Company, at the time when A. H. Bliss was Superintendent. Mr. Smith, in utterly ignoring the conventional rules of spelling and punctuation, gives us an idea of the independence of the old time lightening manipulator, and yet his humility in addressing the Superintendent as "Deer Able" is quite refreshing, showing that withal he was not proud.

The following is a verbatim copy of

THE LETTER.

LEMON, ILLINOIS Sep 20 18—

Deer Able

I herd by reeding some blanks the other da that yoo had gotten to bee a Superentendent of the G. W. (George Washington) Telegraph Company and havving worked at the "biz" foor ni onto 3 yeers I have got too bee almost a sound opperatoor I gess foor I reed buy ear altogether Iff you have anny vacant ophis where ther is no opperatoor Pleas giv it too me. I make a 1st class copy and think after a few yeers constant practice I can bee a press opperatoor. Now if you give mee a job I will agree to work foor yoo all the time. Doo yoo think I could get awa too go home on big days such as christmas Ma always likes too have the family at home then or I would not ask it of yoo Please ancer soon as yoo Pencil can find time.
Yours trulley

FRED SMITH.

The Direct United States Cable Repaired.

A despatch reached the Direct United States Cable Co.'s office November fourth, informing them of the successful repairing of their cable that morning. The Faraday reports the cable, after fifteen months submersion, in as absolutely perfect a condition as when manufactured.

The fracture, which was found in seventy fathoms of water, was such as would be caused by either an anchor or a grapnel. Business was resumed at midnight November fifth and the tariff fixed at seventy five cents a word, gold.

The Quadruplex.

It will be remembered that some time ago we promised to give a description of the Quadruplex, but its publication at that time was not considered judicious by reason of the controversy then going on as to a patent. Now, however, the objection has been removed, and we to-day furnish our readers with a full description of this, the most wonderful telegraph invention in modern telegraphy. The cut, etc., were furnished us by Mr. Geo. B. Prescott, who will please accept our thanks.

Excitement along the Eastern R. R.

In our issue of October 15th, appeared a letter headed Eastern Railway Gossip, and signed "Rooster," which seems to have created quite a sensation down that way. We have been deluged with letters on the subject until our feelings were ready to find vent in tears. They were mostly scurrilous attacks on our correspondent and as such were duly consigned to the waste basket. We cannot allow our columns to be used for any such purpose. We lived for several days in momentary expectation of some one calling at the office and abridging the liberties of the press by throwing us out of the window, but we are happy to say nothing of the kind happened.

"Chops" considers the whole matter a *fowl* calumny, and protests in his usual vigorous style. Protests twice; after sending his first poem he thought the matter over and broke out afresh in what we might call a *crow*-ning effort. Does this "Rooster" awaken such an echo every time he crows?

New Advertisements.

THE ILLUSTRATED WEEKLY.—We would invite the attention of our readers to the advertisement of The Illustrated Weekly in another column. It affords an opportunity for operators to increase their salaries easily and honorably. There are few who cannot raise a club in their vicinity. Send for sample copies and terms to agents.

A Pocket Gymnasium.

Telegraphers as a general thing do not give as much attention to physical exercise as they should. A man who stoops over a desk seven or eight hours a day is apt to feel the effects before long if something be not done towards supplying fresh vitality.

Of all the devices for physical culture now before the public, we know of nothing so well adapted to operators as "GOODYEAR'S EXERCISING TUBES," or "POCKET GYMNASIUM," which we advertise on another page. They are capable of affording an almost endless variety of exercise, and are especially adapted for calling into action the muscles of the chest, back and abdomen. Vigorous exercise is not desirable for persons of sedentary habits, nor healthful; but ten minutes use of these exercising tubes every morning cannot fail to prove of great benefit. We have tried the tubes, and know whereof we speak.

It gives us much pleasure to recommend them to the telegraph—fraternity.

Oney Gagin as an Artist.

It seems that pen pictures are not our erudite correspondent's accomplishments. He appears to have gone into the charcoal business a little of late. The following, from the Portland, Me., *Argus* speaks for itself:

"A HANDSOME PICTURE.—Mr. Daniel C. Shaw, of the Western Union Telegraph Office, has in addition to his other accomplishments, recently developed a much more than ordinary ability as an artist. He has executed quite a number of charcoal sketches, but his largest and best production is a picture of his wife, worked up from a photograph. It is a perfect likeness, and is finished in an artistic manner as any drawing of that kind we ever saw, and there were very fine specimens at the State fair."

We feel very much as *Weller* did when he found *Sammy* writing to *Mary*. "Oh, Oney, Oney little did we think you would come to this!"

What they Say.

E. C. Lacey, Standing Stone, Pa., says:

I notice the two unwelcome words "Subscription

Expired" printed in red over THE OPERATOR. I cannot get along without its semi-monthly visits, so I enclose another years subscription.

ASMODEUS.

"Oh thou! whatever title suit thee —"
Upon the Eastern Railroad line
Midway 'twixt Portland and the Hub,
There stands a town of quaint design,
Where travelers sometimes stop for grub.

I said for grub they stopped and sought,
I never said they found it here,
For very little can be bought
In this old town but Jones's beer.

And of the grim old-fashioned mart,
A monument of time forgotten,
The Eastern Depot forms a part,
A structure old and somewhat rotten.

From out this dim and dark abode,
We lately heard a "Rooster" crow
About this famous Eastern Road—
Their stock is quoted rather low.

This owl, who burns the midnight oil
And sleeps while others keep awake,
Follows the maxim—"never spoil
A story for relation's sake."

How pleasant is the public stare,
How very pleasant 'tis to see
One's name in print, but even there
One likes to choose one's company.

Whoever thought this fair haired youth
Would crow in such a lordly tone
O'er other's petty faults—in sooth,
He'd better crow about his own.

He sings the same old worn-out tune—
That some of us are fond of wine,
And others—minions of the moon;
My friends, his talk is all moon-shine.

Just listen to the tale he tells
Of Flora's office—run by proxy,
Of hats, and canes and dark eyed belles—
I wish that you could see his Doxey.

The maid is fair, though something bold;
Her antecedents somewhat shocking;
She has a fault, so I've been told,
Of wearing neither shoe nor stocking.

We have our faults, and yours, my friend,
Are of that interesting class
Which should restrain you ere you lend
A hand in throwing stones at glass.

Old Shakspeare says "a friend should bear
A friend's infirmities," but you
Expose them, which is hardly fair,
And bare them to the public view.

I could a merry tale relate,
Of wild oats sown, 't would be alarming,
If I should feel inclined to prate
Of what I know about (your) farming.

I might prowl through the land,
How you went down to Old Rye Beach,
And what occurred upon the strand,
But then, you know, I never peach.

I wish that I could say the same
Of some one else about your size,
But compliments are rather tame
For this occasion—*Adieu your eyes.*

CHOPS.

At a meeting of the New York Telegraphers' Association, to be held in the auditors office, in W. U. Building, November the 15th, it is expected that final arrangements will be made, also that provision will be made for the distribution of the invitations by December 1st.

A LESSON IN ELECTRICITY.

The Noble Red Man Investigates the U. S. Military Telegraph, and is Accorded a Shocking Reception.

In the fall of 1874 the last pole had been set, wire strung, instruments connected and office in working order at Camp—, the northern terminus of the U. S. Military Telegraph line in Arizona Territory.

The Indians at the Rio Reservation, 18 miles distant, had heard of it. Yes! and rumor had it that this telegraph was but a new invention of the whites to utterly annihilate them, consequently quite a pow-wow was had as to the why, which and wherefore, and a committee was appointed to investigate the matter, go to camp, on the sly, to find out all about it unknown to the pale faces.

Next day a group of dusky red men, composed of Apaches and Tontos, might have been seen cautiously approaching the Telegraph line. They glanced suspiciously at the wire, and at the insulators then put their ears to the pole, and listen to the vibrating wire. They seemed utterly astonished, and it is supposed recalled to mind all the scalps they had ever taken, their countless sins, and innumerable short comings, and shuddered for they realized that surely. The Great White Father, was about to punish them in some mysterious and scientific manner. They followed the wire down to the office to fully investigate the matter.

Will. S.—, was the operator, a New Yorker, by the way, and up to any fun. On this particular occasion he was busy taking some hard rest, with his feet elevated an angle of 75 degrees, when he observed what he recognized as the Tammany Ring, for they were exact images of the "brave," which adorns the front of Tammany Hall. Their faces were painted in gaudy colors, and they had on their best clothes—viz, a piece of twine encircling their waist, "only this and nothing more."

Being a firm believer in the diffusion of scientific knowledge among the uncivilized classes, Will invited them in to the office, but there was no response. They were not to be trapped in that way, what! run right into the jaws of death be murdered in cold blood strangled with bottles, and wire, never! so strategy was resorted to, for Will saw there was fun ahead, a few cigarettes were made, and handed around, which induced them to venture into the office. One immediately began to rummage in Will's trunk, while another tried on a white shirt upside down. They were remonstrated with, and an attempt made to deliver a scientific lecture a la Professor Doremus. But they were so puzzled trying to find out from whence the mysterious tickling sound proceeded that they paid but little attention. They still had their suspicious moreover, and were watchful for any Yankee tricks.

Will warming to his lecture, explained the immense benefit of the electric telegraph to commerce, Art, Industry and Civilization, he quietly opened his key, put on ground, and handed the end of the main line to one of the braves (to examine). But no go. He would not touch it with a fifty foot pole, so Will to show them there was no danger, placed the wire in his mouth.

The Indian as a general thing has his bump of imitiveness pretty well developed so after a while four Tontos were induced to join hands, those on the end each having a wire. They were still a little suspicious, however. Will suddenly closed his key with a bang and a yell, and fifty caps of galland battery went whizzing through every muscle, nerve and sinew of their bodies.

Then utter astonishment at this point it is absolutely impossible to describe. They made a bee line for home instantly, not even waiting to say thank you, and the impressions prevail in the whole neighborhood even until this day that our friend Will, and his Satanic Majesty are very nearly related.

"Stos."

**Personal Gossip—A Heater as is a Heater—Want
ed, An Inventor—Professional Bores.**

To the Editor of The Operator:

Jerry Collins and Patsy Clark can be seen almost every morning about two minutes before eight coming over Green Street at a pace that would astound Western. Why this hurryingness? (going to take that word to Philadelphia next year. Simply because, since November 1st, all who are not on *tig* are docked at the rate of fifty cents an hour for lost time.

Our Receiving Room, which was left in an unimproved state, has recently been completed. It is fitted up in a manner of which, for convenience and beauty, our Father Riley may well be proud.

The "Milkmaid" was put in by Folger, Southland Co., of New York, and is the first water style different to the old model in 1917. But apart from looking a bit different, having the distinctive oak finish, covering the pipes with a leather-like cover to harden the effect of a half-gallon bucket. Of course this is not very pleasing to the eye, but we are to hope that—oil, grease, etc., so often found in the water supply—will be good enough to make up for a lack of fine materials such as chrome, and a saving save in time and cost being paid instead with our better friends.

I will now close my key, and give some of your more able correspondents a show.

X. Y. Z.

The 'Telegrapher's' Micawber Criticised.- The Centennial Building.

PHIL DELPHIA, Nov., 1875.

To The Editor of The Operator

My attention has been called to an article in the *Telegraph* of October 23rd, in regard to our Centennial Exposition. "Micawber" is evidently unlike his great prototype, the renowned "Wilkins;" for while he was of the most hopeful and happy type of human nature this new edition is of a fault-finding and desponding disposition. Only in one way does he resemble that immortal creation, and that is in his ability for "sitting abstractedly with his thumbs in his vest pockets," and "waiting for something to turn up."

Were Micawber in any degree fair in his report of matters in this city he could never have produced the article in question. He speaks slightly of our Exposition by calling it a "Fair." Well, so it is, but a "Fair" it is the grandest and most stupendous undertaking the world has ever seen. Why! we do not measure the size of our buildings by feet, but by acres. Think of the smallest of all the buildings containing an area of an acre and a half, and the largest (main building) 21.37 acres. The space devoted to machinery alone contains 14 acres, and in it all the churches of Philadelphia could be accommodated and have room for the theatres in one corner. There are to be five buildings as follows:

Main Building	41.45 Acres.
Machinery Hall	14. " "
Apprentices Hall	10.15 " "
Memorial Hall (art gallery)	1.5 "
Horticultural Hall	1.5 "

length to, almost a building seven miles long by two blocks wide, and as high as the top of the tower of the Western Union in France building. Every available inch of space has already been secured, and still they say for "more." When next day I went to see for whom so this new building was to be used, we thought it was for a school, one was going to be "fleeced," as our learned friend from the States says. I am afraid there is some "fleecing" going on by the school officials. "This place," they said, "is for a school."

A. J. van der Wal, D. van den Hul, and W. A. M. Meijer

Watertown, N. Y., November, 1875.

and is well known by the Telegraph fraternity to

19. Theorem 10.4. If \mathcal{A} is a \mathcal{C}^* -algebra, then $\mathcal{A} \otimes \mathcal{K}$ is a \mathcal{C}^* -algebra.

A. R. Pottle "R"uns the wires on his side of the room, and tries to keep his hooks clear.

H. D. Carter, formerly of the main office, has taken Mr. Webb's place at Watertown Depot, and is "Just the man for that place."

THE OPERATOR is thought by the boys around here to be the "Boss" Telegraph Packer, and is eagerly looked for. Hope its circulation will continue to increase in the future.

"SPOOKT."

The Queen City of the West.—Personals.—The Canadian Telegraphers' Mutual Insurance Company.

Toronto, Nov. 2, 1875.

To the Editor of the Operator:

It is quite awhile since we have seen anything in your columns from this our "Queen City of the West," and we think it is about time your readers heard from us. If it is only to say that we still live and have our being. With your permission I will try and furnish a few items which I hope will be of interest to your numerous readers. Mr. West's escape will be but a mother's milk, and I am only sorry that it is more well known and easier to take it up.

You readers are doubtless aware, as I am, that we are just recovering from what is termed a business "drouth" or "pinder." During the past summer we have heard from all parts of the Dominion loud complaints of the depression in trade and consequent scarcity of the money market, and a general feeling of our *wanting business* has been heard to go on for a while on this account, but thanks be to kind Providence things are beginning to look more hopeful and business is revivifying. The *unpleasantly* speaking, we have done a very good business in 1874, and when we come to compare receipts for the corresponding months of last year, I think we will find that the falling off has not been so great as we could have expected. Some one may differ with me, but I think I have taken pains to establish the correctness of the above comparison of our present trade.

[illegible]

Saturday, Sept. 30th, Miss Murphy, operator M. T. Co.'s office, Walkerton, was presented by her cus-

to be a lady operator in her neighborhood. Now Mr. Editor, I have finished, and if you think these few remarks worthy of publication, why publish them; but if not, why practice a little economy by writing your editorials on the back. Yours fraternally,
M. T. HEAD.

Montreal Letter. Retrospective—"Bif" Cook— A man who wants more love.

Montreal, November, 1875.

To the Editor of The Operator:

The "Busy Season" is almost over with the Telegraphers in this office, and we have an opportunity of taking a long look backwards, and ruminating over the many changes that have taken place here since "beautiful Spring" first dawned upon us.

Poor Bob Hanna, who was wont to work so quietly and steadily on St. Johns wires, has departed—never to enter the old office again. He was ailing for several months before his death by Consumption. In the early part of Summer, Mr. Dakers with his usual kindness sent him to Cacouna, to take charge of the office, hoping that the sea air would prove beneficial to him. His stay there was very short, however, and he died a few months after his return. It is almost needless to add that he was a universal favorite.

Jem Foster, the great athlete and renowned Snow-Shoer, left here for Gotham some months since. He is a man to be proud of. Could make a better copy, and put it down easier than any one I know. He has our best wishes.

Young has also left us for your city of publicans and sinners. Though gone only a short time, he will remain long in our remembrance.

Old "Lengthy!" I wonder if he still remembers the never-to-be-forgotten scene near the old Methodist Church, St James Street.

Wm. H. Drumm, our heavy weigh', has shuffled off the telegraph garb, and donned a black gown, and four covered pasteboard caps in McGill College, and is now studying law. He was a well known operator, and earned considerable reputation in days gone by as a receiver. May he scoop in briefs as he used to scoop in Ottawa Press.

Paré of the Quebec duplex has accepted the Shearbrooke agency. We hope he will prosper.

Sam Trenaman, (we wont flatter him, for he is above all flattery and praise,) has also accepted an agency at Three Rivers. May fortune never frown upon him.

Our new arrivals are: Pink from California; Goodfellow, Chicago; Lans Kail, Brockville; and C. P. from Danville.

Andy Cook, better known here as "Bif" Cook, has been working nights since Spring. He is the best nightman this office has had for years. At home on all sorts of work, and in that peculiar quiet style of his he can get through as much biz as two ordinary men. We wont "give him away," though.

While writing this article we look up and see a modernized edition of Adon's fluttering around the hotel wires, with a smile for one and a smirk for another. He gradually works around the room until he reaches the Three Rivers table, where his ebony locks form a pleasing contrast to the green dress. There he subsides.

I take it for granted that the Sackville wire is "lust," and Bobbery is having a gala day.

That man on O. B. wire says he wont subscribe for your paper unless you put in a little bit of love now and then.

Bob Penny, who suffered severely with an abscess in the ear about a month since, is amongst us once more, and improving rapidly.

Meal time at hand, I hie away

As Turner swiftly hies to "J."

CURISE.

Washington Letters.—New Switch Board.—A Looking-Glass that wouldn't "break."—The Washington W. U. and A. and P. Offices.—Changes—Promotions.

WASHINGTON, D. C., Nov. 10, 1875.

To the Editor of The Operator:

The new switchboard for the W. U. office has arrived, and been placed in position, but no wires yet run to it. It is very handsome and will be very convenient, and an improvement over the one now in use, as it holds more wires, and the loops are on wedges, instead of on the board itself. Story's looking glass was thrown from the fourth story window to the pavement, by some evil disposed person, but skipped merrily along without breaking until rescued by a young African. It was evidently accustomed to hard usage, to stand that. Some say that it must have been close contact with a hard check that toughened it equal to "Bastie glass." Story wants to find the man who perpetrated the outrage. Connor, our old veteran, and his party are putting up new wires to the capitol, which when completed will give the W. U. twenty-two wires from the capital to the main office. Two new quartette tables are to be put up, and then the office will have reached its utmost limit as to room. The building is too rickety to hold a cupola for the additional wires, and they will be run in by a cable leading from the office pole, through the wall and under the floor to the switchboard.

When shall we have an office here in keeping with the magnitude of the business transacted, and in harmony with our surroundings? The present one is a disgrace to the company. The officials here have done and are doing their utmost, but in such cramped quarters there is too much crowding and want of proper facilities. Washington, of all places in the country, should have a fine office, and we all hope that when our city is crowded with Centennial visitors next year, the Western Union Company will have an office here which will be a credit to the company and to the city.

The A. and P. are in even a worse position in this respect than the W. U. They have moved their main office to the rooms formerly occupied by the Automatic Co., on Pennsylvania Avenue, above Willard's Hotel, but have only an operating room there, and on the second floor. Messages are taken in at the branch office in Willards Hotel and sent up by messengers. The messengers of the company also require some attention in the matter of uniform which at present simply consists of a red painted badge worn on the hat, similar to that of a hotel porter or baggage smasher about a country Depot. Their lines throughout the city have been rebuilt and present a better appearance than ever before. The A. and P. have a branch office where their main office was formerly, in the same room with the S. and A. Co.

The W. Union "Ow" office at Pennsylvania avenue and Sixth street, has been removed to the opposite side of Sixth street, nearer the Metropolitan Hotel, and in the same room with Knox's Express and the railroad ticket offices. Mr. Charles M. Sands, has been transferred to the main office, and was succeeded at the Post Office by Will Haight. Haight, in turn, was succeeded at Fifteenth street by "Major" Vowles, promoted from the clerical force. Bligh has been promoted from number clerk in the operating room, to be files clerk down stairs.

Jennings, who was expected to take hold here for the W. U., October 1, has changed his mind, and the place will be filled on the 15th inst. by Ed. Thompson from Richmond. Thompson will not be frightened this time. Deakers, formerly night chief for the A. and P., now officiates for the S. and A. Miss Emily L. Carter has been appointed operator at the Treasury on the government line. This position has been vacant since Loomis went west last

Spring. Mrs. M. J. Claudy, who resigned the key at the Interior Department some months ago, is in other business, her time being devoted exclusively to the care of a young Claudy, a regular giant sounder. The place at the Interior Department is filled by Mr. Pushaw of Maine.

Jim Parsons, who left here on a vacation Oct. 1, returned on the 10th sick, and was unable to resume business until Saturday last. He is still very weak but hopes to pull through all right.

A Suggestion.

To the Editor of The Operator:

We have an error sheet sent to us monthly, and in tracing find that we credit on our check ledger amounts to one office which should have been entered to the credit of another. When this is the case the company loses nothing. It frequently happens that these offices are next to each other on the check report, and an excess is as easily found as a deficit. How is it that nothing is ever said about an excess? If a manager should fail to find an error of this kind and remits the deficit, the company is so much ahead of him. Now, why can we not have an excess column on blank No. 7 as well as a "deficit" column? It would certainly aid in looking up errors, and occasionally save us a few dimes.

TEXAS.

Abou-Ben-Adhem.

Abou-Blonde-Bigelow, may his tribe go West!
Awoke one night from out a troubled rest
He'd taken, snoozing in his office chair,
And saw beneath the gaslight's glittering glare
A Demon, copying Morse on manifold;
A pint of beer had made Blonde Bigelow bold,
And to the wierd and ghostly thing he said:
"What writest thou!" The Phantom raised its head,
And said in tones that made Blonde Bigelow quake,
"I write the names of those who keep awake."
"I dont hear mine," growled Blondie. "Not for Joe!"
Replied the Goblin. Bigelow spoke more low
But still with confidence—"I say, 'Old Cotten Batten,'
Write mine as one they ne'er can catch a napping."
The spectre wrote and vanished—but next night
The watchman, bent on giving Big a fright,
Stealthily to his office door did creep,
And lo! Blonde Bigelow was fast asleep.

CHORS.

Protecting Vessels from Fire.

The loop-of-war *Swatara*, which sailed a week ago for Brazil, was provided with a system of signal bells, as well as the electric fire alarm carried to the coal bunkers. This latter arrangement, which was for the first time in the history of the Navy supplied to the *Tennessee*, is an ingenious arrangement for indicating the appearances of spontaneous combustion in the bunkers. Should the temperature of the bunker arise to the danger point the circuit is closed, and a bell is rung in the executive officers' state room. Wires also lead from this officer's room to the master-at-arms, so that instant provision can be made on the berth deck for meeting the emergency of fire. An apparatus like the above described should be applied to every vessel carrying coal on long voyages, especially under the equator.

THE A. AND P. LINE COMPLETED TO ST. LOUIS. St. Louis, November 11.—The Atlantic and Pacific Telegraph Company's connection with St. Louis direct, which has been interrupted since the wires were torn from the bridge, October 23d, as already reported in THE OPERATOR, was restored at 4.30 yesterday afternoon by the completion of the laying of a cable under the river. Everything is now in readiness for the handling of business by the Company in this city.

Plug Chronicles.

CHAPTER FIRST.

1. In the days of Bed-Low, of the tribe of Doublyonteco, it came to pass that much rivalry and contention gat about upon the wires thereof, and great deeds of valor and strength, yea doughty deeds of speed and endurance were brought to pass among the valient men of the tribe called Tickers, who were in strength in the land and great in numbers.

2. And the headquarters thereof were Bosting, a hamlet by the seaside, in which place a host of Tickers lived and moved and had their beans.

3. And Port-Land, another town afar off, which is so called inasmuch as no Port is to be obtained there may not even the beer called lager—so goodly are the inhabitants thereof, and abstemious in drink and diet.

4. And it came to pass that as the contention and speed increased the signals came so rapidly that the wires could not hold them, and they began to tumble off by the wayside,

5. A ticker of the family of Plumes, which was also mighty in the land, whose tent was in Biddys-Ford, which is over against Saw-ko on the river of that name, heard the signals and the din on the wires, and he was filled with consternation.

6. And he said unto himself, can these things be thusly? and if so why soly?

7. And he interrupted the contention and the rivalry, and straightway reported to Bed Low, which was in Port-Land, and he said unto him.

8. Oh! mighty chief and commander of the hosts of Tickers and of the Plumes, which are called unterified! Lo, there be trouble on the wires, yea, a great contention and commotion, and much damage is wrought by the massive signals which will not be contained thereon, and which do drop off by the wayside:

9. Lo, have I here a barrel full, and many others of my neighbors. The fires are kindled therewithal, and they are red hot for burnt offerings.

10. And moreover the cross arms strew the ground, and the line is damaged greatly.

11. Wherefore, oh chief, have I stopped this turmoil and contention. Yea, I have even grounded the line and put on my ground wire,

12. And though the end men thereon are exceedingly sore and aghast, yet stand I at my post unflinching, and the wire is calmed to stillness.

13. And when Bed Low heard these words, he was exceeding wrath, and he said unto this Plume surnamed Ticker:

14. Harken, oh Plume, to what I shall say unto thee, and let the words of this, my message, take root and furnish fruit, yea bear rich fruit for reflection.

15. The contention of which thou speakest is in a noble cause; yea, and for a goodly purpose, and is in no wise to be interrupted nor cast down.

16. For behold it is the sending of one Potts, who is for short surnamed Kettles, and also he who is called Stan-Ford, both great Sachems and leaders among the tickers of Bosting;

17. And lo they vie with one another, yea even contend to decide which of the two can send the most salt to Port-land. But lo! it can't be did! for verily the Tickers here have no Port with which to be fuddled, nay, not even the beer which is called lager, and they are, therefore, clear headed and are not to be salted!

18. And the man which proveth himself the most speedy and who hath the most suddenness in him, and whose stock of rich salt is the largest, shall go, packed in cotton, unto the city which is called Phila-Delphy, for so it is written.

19. And there shall he be exhibited for a price and for shekels of gold and of silver.

20. Yea, even in a glass case and in jewel and

fine raiment shall he be put, at the show which is called Ten-Cent-fal, and he shall be lifted up and exalted.

21. Wherefore, oh Plume, I say unto thee, remove now thy ground wire and from the line all obstructions; stand clear of flying cross arms, and let not the insulators strike thee.

22. But save carefully, I beseech thee, all the signals of which thou speakest, and which drop off by the wayside, yea hoard them up securely and send them unto me; even by the expresco let them be forwarded;

23. For of great service will they be unto us when some day we try to salt Bosting;

24. For lo we will build up a coal bin, close over against the new switch board, and whenever we think they'll come handy, just shovel them in on the duplex.

25. And the Plume heard these words and was exceeding sad and sorely troubled, but he straightway took off the ground wire and removed the obstruction as he was ordered;

26. Whereupon straightway began again the clatter and turmoil and confusion which hath since abated not at all, but even unto this day continueth.

27. And lo, the last state of that Plume is even worse than his first, for behold his days are weary and full of toil, and he fain would seek repose but cannot, for lo he doth nothing but shovel, yea gather and shovel, and sweep up the signals which fall in showers from the wires by the way side, and ship them each day down to Port Land.

THE END.

PERSONAL.

F. E. Bausher is at Morristown, Pa.

J. H. Finks is Manager at Waco, Texas.

Jno. H. Meehan is operator at New Iberia, La.

W. H. Clements is with the Old Colony R. R. at the Hub.

V. P. Harkins, is with the Eastern, R. R. at Boston.

W. C. Barden, is manager at Tucson, Arizona Territory.

Thos. H. O'Reilly contemplates spending the winter months in Europe.

Ned Daven presents a very soldier like appearance in his neat blue coat.

T. Allen has changed his boarding place. He lives in Brooklyn now.

P. Mularky, of 195 Broadway, is New York agent for T. A. Edison's Autograph Press.

Messrs. Gray and Goulding looks out for the W. U.'s interests at Peabody, Mass.

W. H. Starry has moved from Camp Verde, Arizona Territory, and taken up his abode at Maricopa Well, A. T.

Will some one please give us the present address of Harry Whipman, Operator, formerly of Baltimore Md.

"Amen" for "Allen" two days in succession by "Bu." "Silas" must have been of a prayerful turn of mind about that time.

J. S. Young has accepted a position as night operator at Morrisville Siding, Pa., for the Pennsylvania R. R.

Les Bradley regrets that unforeseen difficulties, which it will be impossible for him to overcome, will prevent him putting in an appearance at the Ball.

N. C. (monogrammatically) "Who was present when the stone was took," is noted down in Johnny's book, in black and white—the year and day; 'twas 'Mr. Gill,' don't give it away. F. H. P.

J. F. Barry, clerk at 812 G avenue sails for Europe for the benefit of his health, on or about the 1st of December. We may be called upon to chronicle a little "matrimonial" affair concerning this gentleman ere long. At present he is in a Browns study.

DOMESTIC NOTES.

The following Messages passed over the wires on the day following Election addressed to the successful candidate for Coroner. One prayed thusly:

"May all the bad men in New York, come under your view," and the other quoted scripture as follows:

"Verily the Stone which the builders rejected has become head of the Coroner."

A correspondent thinks it is high time the clock was put in the tower of the new Western Union Building. We should say it would be very "high" time.

Never insult a man because he is poor in purse or raiment; for beneath a ragged coat it may be that a muscle lies concealed that could put a head on the oldest man in the business.

Where are these hard times to end? A man's word is only worth seventy five cents now, when sent by cable. Two weeks ago it was worth a dollar.

Sweet are the uses of Electricity. It is now used in paying Post Office orders in the New Post Office, this city. In the Money Order Department there is an endless belt drawn by Electricity which carries checks from the cashier, saving much time.

The Telegraphers Mutual Benefit Association, has 1,250 Members and \$7,000 in the Treasury. The families of 80 members have been assisted.

An unpaid board bill will strike terror to the heart of the fastest sender on the American continent.

The Western Union Telegraph Company, have opened a new office at 12 W. 23d Street, (The old Nathan Mausling) P. J. Casey in charge. It is the handsomest W. U. office in this city. The instruments are of Phelps' improved pattern small relays, and monitor sounders, and are nickel plated as is also the switch, which contains 11 wires, at present, the office is open from 8 to 12 P. M. but it is expected that it will be made an all night office ere long.

BIRTHS.

On Sunday, November 7th, at five o'clock P. M., to Warren W. Mintzer, Telegraph operator, Pottstown Pa., a Boy. Third edition—weight fourteen pounds.

Attention, Operators!

Here is just the thing for the long Winter evenings.

"THE PANTECT,"

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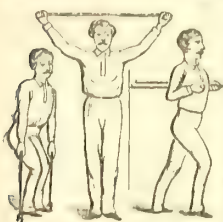
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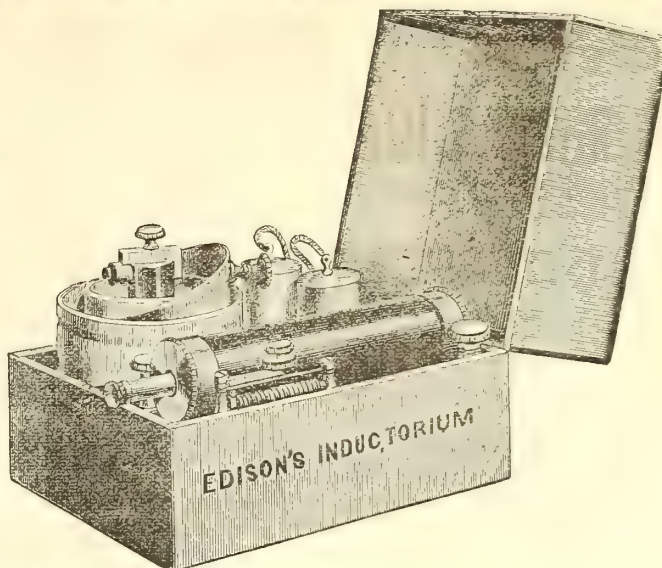
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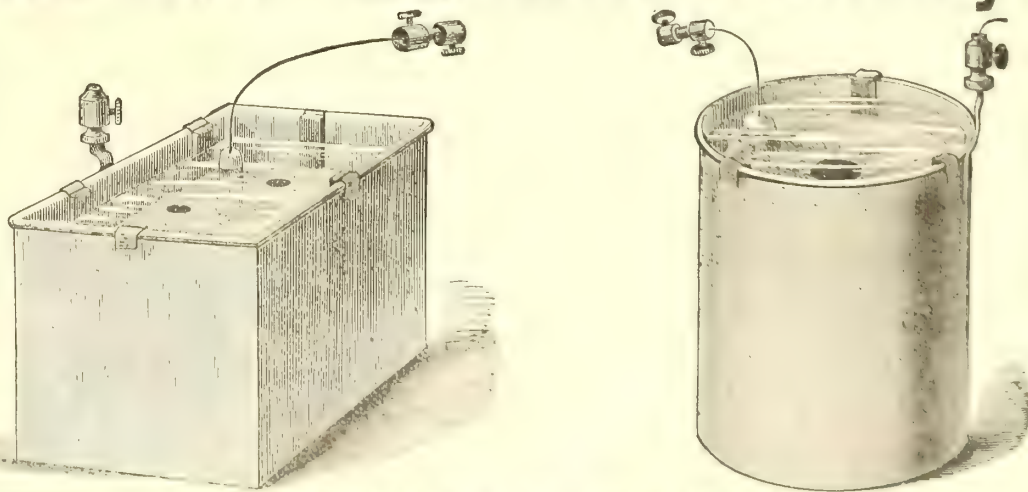
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Simple in construction, requires no skill to set up, or trouble to manage, it does its work with steadiness, economy and DOUBLE THE AMOUNT OF POWER of any sulphate of copper battery, as long as there is left in the jar an ounce of blue vitriol to consume.

For open circuits, the Eagles Metallic Battery has been found to be a perfect success. The Battery is actually in use on several telegraph lines, and has proved especially adapted for Electric Railroad Signals, Battery Assisted Relays, Repeating, District, and other telegraphs where a constant battery is required, Motors, and other applications.

Edwin Everett, Dear Sir: I have been very much interested in testing up your Eagles Metallic Battery, and after two years of trial and observation have come to the conclusion that it is the best for the purposes for which it is adapted of any yet presented. Its constant electric motive force, and equally low resistance, together with great economy, places it as a constant battery at the head of the list.

I could not be without the Eagles Battery.
Yours truly,
Consulting Electrician American Automatic Telegraph

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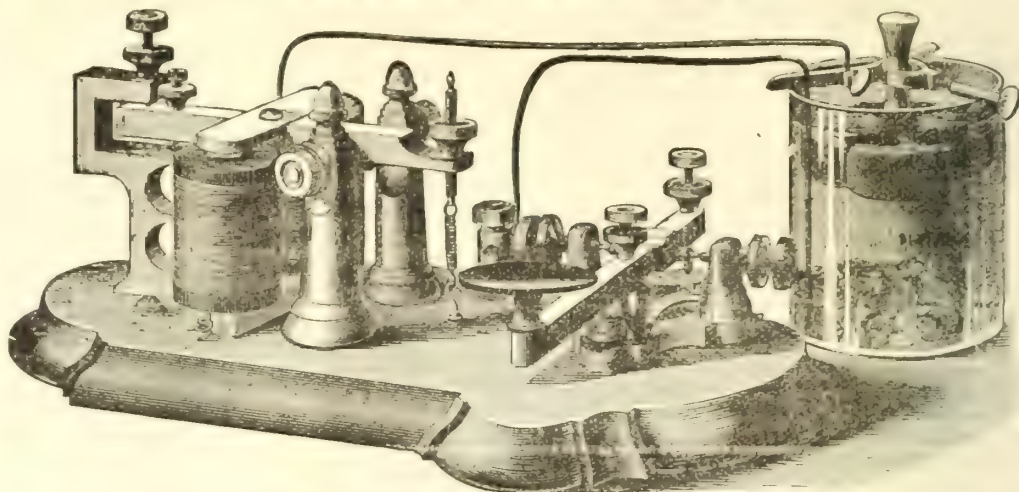
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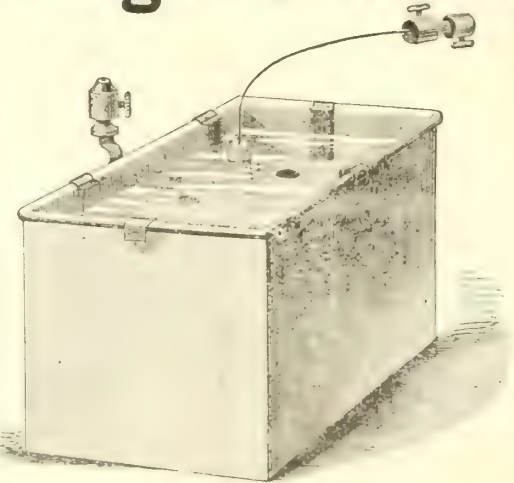
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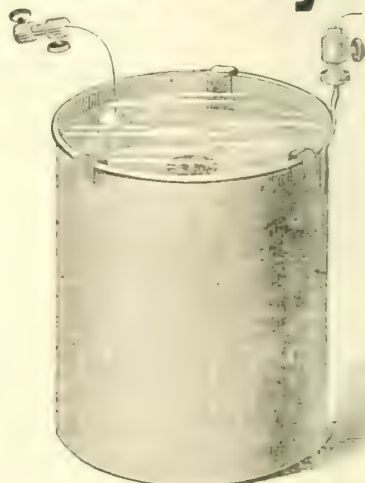
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THE OPERATOR.

The Telegraph Operators' Journal.

VOL IV.

NEW YORK, DECEMBER 1, 1875.

No. 7

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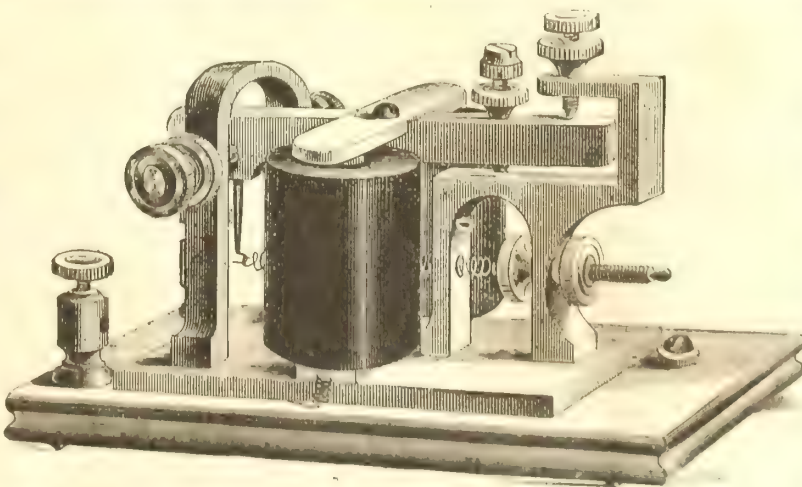
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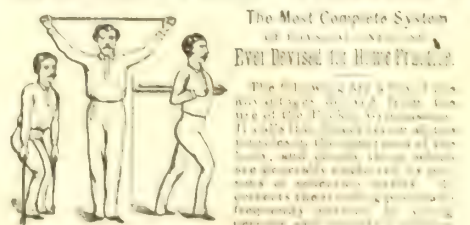
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THE OPERATOR,

THE ORGAN OF THE AMERICAN AND CANADIAN
TELEGRAPH OPERATORS, AND JOURNAL OF
SCIENTIFIC TELEGRAPHY.

The Publishers, in announcing the Fourth Volume of *THE OPERATOR*, which commences with the number for Sept. 1st, 1875, desire to return thanks for the liberal support which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue, as heretofore, to labor for the best interests of the Telegraphic Fraternity, and the advancement of Electrical Science and the Telegraphic Art.

As heretofore, no labor, time, or expense, warranted by the patronage received, will be spared to improve its character and add to its interest, and to sustain its reputation as the only first-class Electrical and Telegraphic Journal upon the American Continent.

SCIENTIFIC NOTES.

A New Induction Coil.

Mr. C. F. Brush, M. E., communicates to the *Engineering and Mining Journal* a description of a novel induction coil designed by him. A three-eighths inch iron rod is secured by a collar and nut in the base, and serves as a support for the core, which is composed of about 1,200 iron wires (No. 20 gage) made perfectly straight, and carefully annealed. This core is covered by four layers of paper saturated with paraffin, then one layer of the primary wire, which is of copper one-eleventh inch in diameter and 90 feet in length, then six layers of paper, and, finally, the second layer of wire. The latter is not covered, but is wound with a narrow strip of paper between the consecutive turns, the object of this being to economize space. A hard rubber tube incloses the primary wire, and is 12 inches long, $2\frac{1}{2}$ inches in internal diameter, and $\frac{1}{4}$ inch thick. It is held by pieces of wood which also support the core. The secondary wire is 30,000 feet in length, is wound in eight sections, 1, 2, 3, 4, etc., and covers eight inches of the tube. Sections 4 and 8 contain 35 layers of wire each; sections 7 and 2, 55 layers each, and sections 3, 4, 5 and 6, 67 layers each. This arrangement places most wire around the middle portions of the core, where its inductive force is greatest. The consecutive layers of wire in each section are insulated from each other by ten thicknesses of unsized paper saturated with melted wax, and the consecutive turns of wire in each layer are insulated from each other by being wound with a space of one two-hundredths of an inch between them. The wedge-shaped space between the sections is filled with paraffin, which insulates them, and the exterior of the sections is also covered with the same material. The secondary wire begins with section 1, and forms the outside layer first; thence it passes from layer to layer until the innermost one is reached; there it crosses over to section 2, where sections 1 and 2 touch each other, and forms the innermost layer of section 2; thence from layer to layer until the outside one is reached; thence it passes to section 3, forming the outside layer first, and thus it proceeds until it ends in the outside layer of section 8.

The advantages of this arrangement, as regards economy of space, is obvious. No insulating material being required between the sections, where the wire passes from one to the other, none is used. But as the quantity of wire, and, consequently, the tension of the induced electricity, increases directly as the distance from this point toward the opposite edges of any two contiguous sections, so the thickness of paraffin increases until finally it is the thickest of all where insulation is most needed. A space of one eighth of an inch between the innermost layer of the sections and the tube is filled with melted paraffin, which, together with the rubber tube it

self, forms the insulation between the primary and secondary wires.

The object in using the secondary wire bare is economy of space. It is a matter of the greatest importance that the whole of the secondary wire be placed as near as possible to the magnetic core, as the inductive force of the latter varies inversely as the square of the distance from its axis. The same amount of silk-covered wire would occupy at least double the space, and would, consequently, average a much greater distance from the core.

The condenser used with this coil consists of two hundred and forty sheets of tinfoil, five by ten inches, arranged in the usual manner, and separated by single sheets of varnished paper. The break-piece is Foucault's automatic, in which the rupture of the current occurs at the surface of mercury covered by a layer absolute alcohol. It is operated by a separate electro-magnet, which, however, is in connection with the primary wire of the coil. The instrument is provided with a communicator, by which the primary current is started, stopped, or reversed at pleasure.

The performance of this coil is quite extraordinary for an instrument of such small size. When operated with two cells of Bunsen's battery, it gives sparks three and a half inches in length; and with one large cell of the Grenet battery, three-inch sparks are obtained. The sparks are very dense, and are attended with numerous and brilliant ramifications.

POWELL'S IMPROVED BURGLAR ALARM.—This is a new and simple burglar alarm, which may easily be attached to any door. It is so constructed as to be rendered operative at will, and is located on the door, shutter, or window, so that a wire inserted from the outside cannot be used as a means of discovering its presence. It presents a neat exterior appearance.

The device consists of a metal box in which is inserted an ordinary clock train, provided with spring, etc., and having the arm, to which the pendulum is usually attached, extending upward and carrying a hammer for striking a gong. Across the frame is a sliding bar, the movement of which is limited by a projection passing through a slot made in the direction of its length. This bar, by means of a spring, has a tendency to move inward or to the right. Connected with the bar is the lower arm of a lever, the upper forked arm of which is adapted to a pin on the arm of another lever. The lever last mentioned comes in contact with the hammer arm, and prevents its vibration. To the end of the bar is attached a catch which hooks over a pin fixed on the door frame when the apparatus is set. On the door being opened, this catch is moved from the pin; and the bar, being carried back by the spring, the hammer arm becomes free, and the clockwork causes the bell to sound the alarm.

When it is desired to hold the alarm out of action, a pin is pushed inward so as to prevent the movement of the escapement arm.

Patented May 18, 1875. For further information, relative to sale of State rights, etc., address the inventor, Mr. Thomas Powell, No. 802 Chestnut Street, Philadelphia, Pa.

The following is a good recipe for staining light wood in walnut color: Take asphaltum varnish 1 part, turpentine 3 or 4 parts, linseed oil 1 part, and Venetian red ground fine in oil to suit. This will impart to light wood a good imitation of walnut, so that it can hardly be detected.

Brass wire should be softened before being used for rivets. To soften, heat and allow to cool or dip in water.

NICKELIZATION.—In Plazanet's process a bath is used of 87.5 parts sulphate of nickel, 20 sulphate of ammonia, 17 citric acid, and 1,350 of water. A bath much used in France is formed of a solution of 4 parts of nitrate of nickel in 4 of liquid ammonia, and 150 water in which 50 parts of sulphate of soda have been dissolved. Using a moderate weak current the operation is at an end in a few minutes. There is no need to interrupt it by taking the objects out and brushing them. When the film of nickel is of sufficient thickness, the objects are withdrawn from the bath and dried with sawdust.

AMATEURS wishing to mark patterns for scroll saw work should take the bracket or other piece of work which they desire to copy, and spread over it a sheet of paper, securing it from slipping. Rub gently over it a piece of saddler's black leather. All the outlines will be marked accurately, and it takes but a minute to copy any piece. The saving in money for patterns, which cost from 10 to 20 cents in the stores, is therefore considerable, and it is often impossible to get a pattern of some particular thing which strikes your fancy.

For turning an ordinary oilstone for sharpening planes, take a sheet of glass-paper No. 2, and place it on the bench. Rub the stone over it. In this way the stone can be trued in one quarter the time required by the ordinary process.

Cavendish showed that nitrogen and oxygen in air formed a mixture only, but that the passage of electric sparks produce their chemical combination—nitric acid being the result.

FOREIGN NOTES.

IMPROVEMENTS IN PRIVATE TELEGRAPHY.—Mr. R. S. Symington, of Glasgow, has just added another to the various novel and useful adaptations of the systems observable in various parts of the above city. Inside the lobby of the Royal Exchange has been erected a small office or enclosure labelled "Members' Private Telegraph Inquiry Office," inside which Wheatstone's alphabetical telegraphic instruments have been set down, having in connection with each switch, by which the current may be directed to any one of the twenty-five different wires. This switch may be described as an ebonite stand of circular form, having round the outer rim a series of twenty-five brass terminals to the wires, and an inner series of knobs of indicators. In the center of this inner series is a handle, by turning which the current is directed to the particular wire through which the clerk in attendance is desired to convey a message. These wires are connected with the offices of all the members, and by this means the various business firms are placed in communication with each other and with the Exchange. On the receipt of messages at the Exchange they are posted by the clerk in a conspicuous part of the room, and a bell is rung to inform members of the fact. The messages are placed within a large case, divided into numbered pockets with glass fronts, and at each member knows his own pocket, a glance shows whether the message is intended for him.

The *Hibernian*, with the second portion of the New Zealand cable, will leave in the early part of November.

The cable between Santos and Santa Catarina having been repaired, direct communication with La Plata is now restored.

The Government of Western Australia propose to expend \$147,500 dollars in the construction of a line of telegraph to South Australia. The line will extend from Albany to Perth.

We are happy to announce that Mr. F. C. Webb, C. E., who has lately returned successful from cable operations on the Brazilian Coast, has had conferred on him by the Emperor of Brazil the honor of a Knight Officer of the Order of the Rose.

Magnets prepared by compressing iron filings in tiles have been exhibited to the French Academy by M. Jamin. When soft iron filings are forcibly compressed by hydraulic pressure, they acquire a coercive power equal to that of steel.

The Indo-European Telegraph Company state that the average time in transit between London and India, *via* Teheran, of all outward messages to India, including messages for Penang, Singapore, China, Japan, Java, and Australia, during the week ending 22d October, was 51 minutes.

The New South Wales Government have successfully adopted the Wheatstone Automatic System. Mr. C. E. Winter has returned from Sydney, where he has been engaged in starting the system and instructing the staff. He brought away with him the warmest congratulation of the Postmaster General.

The liquidator of the Panama and South Pacific Telegraph Company, Limited, announces that all the moneys owing to the company having been collected, he is enabled to declare a further return of \$3.93 per share to those shareholders who have paid up \$12.50 per share and a return of \$1.79 per share to those who have paid only \$5 per share, being the proportion due to them after deducting interest at the rate of 5 per cent on the allotment money due the 31st January, 1870, not paid by them.

A curious statistical table has been drawn up in France, showing the distribution of letters and telegrams per head in different countries. Switzerland is first in both classes, the telegrams averaging eight for every 100 inhabitants; in France there are 23 letters to every 100 inhabitants; in England 20 1-12th, and in the United States 19. In England there are 54 telegrams for every 100 inhabitants; in Holland 51; in Belgium 47; in the United States 32; in Germany 31. France ranks tenth, and Russia last with one.

DOTTING-PENS.—An ingenious little apparatus for assisting in mechanical drawing has been patented by its inventor, [E. O. Richter, a watchmaker in Chemnitz, Saxony. In machine drawing, projections, and the like, the drawing of dotted, half dotted, or stroke lines is a mechanical task, the wearisomeness of which this apparatus is designed to relieve. An upright plate, sliding on the paper, has on its lower edge a toothed wheel catching in a bent lever which carries the pen point. A spring keeps the pen close to the paper. The wheel is kept in position by an adjustable plate. Wheels of various patterns can be used for producing a mixture of dots and strokes, the length and variations of which correspond to the indentations on the circumference of the wheel.

FRENCH PATENTS.—In 1871 there were taken out in France 5,746 patents; 4,202 for fifteen years, 54 for ten years, 32 for five years, 283 foreign patents, and 1,175 extensions of former patents. The objects for which patents were taken out were in the following order for number: Chemical industry, including foods and drinks, machinery, textile industry, agriculture, domestic appliances. The average number of patents per annum in the ten years before the Franco-Prussian war was 5,800.

It is proposed in France, by the telegraphic administration, to encourage the introduction of private wires, and to offer such inducements that no great factory and no rich man's house in the country will be without its wire.

The Superintendent.

A TALE WITHOUT A MORAL.

THE super sat in his official den,

His look was angry, and his brow was sad;
What'er the matter was I dinna ken, [mad.
Something, no doubt, had made his boss-ship—
For superintendents, like all other men,
Are sometimes felling well, and sometimes bad;
And, like us, heirs to all the human ills—
Dyspepsia, headaches, gout, and unpaid bills.

You know the man, but I'll not tell his name
For certain prudent reasons, and for fear,
Though popular and not unknown to fame,
He might not care to see it written here.
Some heroes boast it, others blush with shame
To have their deeds proclaimed by bard and seer;
And so we'll merely give his rank and station,
In lieu of any further designation.

His eyes grew heavy as he tried to write,
He held them open as long as he was able;
At last his pen falls, and he shuts them tight,
And sleeps like Rip Van Winkle in the table.
So now, kind reader, if you want a sight,
We'll peep around his desk, and on the table,
And take a rummage, as the saying goes,
Perhaps we'll find the cause of all his woes.

Upon the desk, half reaching to the ceiling,
Was a pile of letters, of that kind
The employes with very little feeling
So often bore their superintendent's mind:
For some with loud complaints are always squeal—
The wonder was how he the time could find
To answer such a mountain of chirography.
I give it up—unless he wrote phonography.

The first one wants a substitute to take
His office while he has a short vacation;
The next one wants employment, for the sake
Of brevity we'll skip his application.
The third one finds it difficult to make
Out his accounts, and sends, in some vexation,
A short apology for his long delay;
The fourth is loudly clamoring for more pay.

The fifth is from a lady, you will guess,
As she complains of all the plugs around her.
She must, indeed, a saint could do no less;
They open circuit, cut her off, and ground her;
And then her office is in such distress—
She'd like a carpet, relay, key, and sounder;
Ah, yes! and one thing more—but here the hitch
Is modesty, she wants a brand new switch!

And thus it stands, a pile of huge dimensions,
And counting upward of five hundred more,
And all, of course, requiring prompt attention,
And each and all a most confounded bore,
Which might be termed "Auld Clottie's" own invention.

But here comes a knocking at the door.
The superintendent, starting from his chair,
First rubs his eyes, and then demands, "Who's there!"

In answer to the summons came a youth
Whose anxious look and bearing indicated
An applicant for office, as in truth
He was, and with a flattering accent stated
That though his manner might be deemed uncouth,
Yet as a first-class man he had been rated—
And then referred him to our friend "Bonanza."
"Lord bless me!" said the super—"Sancho Panza."

The reference noted down, he asks his name,
How long he'd followed this same occupation,
What was his age, and weight, from whence he came,
And then about how much of the inflation

He would expect, or if 'twas all the same—

The young man here broke in with trepidation,
His name was Josh, and that he came from Maine,
The land of baked beans, barley, bears, and Blaine.

He'd worked, he said, with Hiuman in the west,
Who knew his character and disposition,
And whether he could sling a quill or test,
Or knew an error sheet from requisition.
And then, he added, with peculiar zest,
He'd worked upon the down-east opposition,
And had a recommend from Mr. Brown,
A superintendent there of much renown.

"Ah, Brown!" and here the super scratched his head—

A common custom when the memory blurs—
"Who down in Maine the opposition led.
He isn't very handy with the spurs,
According to the poem of 'Nuf Ced,'"
And couldn't seem to make 'em stick like burs—
A fault which caused an accident quite bad
To Mr. Brown, and made Kilmartin sad.

The story goes he tried to climb a birch,
With implements used only by old liners,
And having reached the top, he gave a lurch.
The sequel furnished many a theme for rhymers.
Certain it is he fell from off his perch,
And ever afterward eschewed the climbers;
But bade his henchman follow with a ladder—
A feat of arms which made Kilmartin sadder.

I can not say it this be truth or fiction.

I only give the story as 'twas read;
And, for a more elaborate description,
You'll have to seek the chronicles of Ced.
But, then, I've heard that in his jurisdiction
They insulate their wires with red lead!
It answers every purpose, I suppose,
And here the super stopped to blow his nose.

Our hero was no orator, and so
We'll not set forth how he expatiated.
He did his level best, and all to show
His boss was vilely used—calumniated.
And then that quondam cause of all his woe,
The Philadelphia Bard he soundly rated.
But when the super asked him if he drank,
He said "Oh no!"—and then looked somewhat blank.

"Don't hurry," said the super, "stop and think—
You're no teetotaler, I'll bet a quarter;
An operator always takes to drink
As ducks and superintendents take to water.
And here he gave a diabolic wink,
As boys to girls, you know, or bricks to mortar.
There may be some exceptions down in Maine,
But nowhere else, my gay and festive swaine.

"I've traveled far toward the setting sun,
I've roamed the land of pork and beans and fritters,
And journeyed south far as our wires run,
And been among all sorts of men and critters;
I've seen a fiddling priest and dancing nun,
But never saw a plug refuse his bitters.
And don't believe, from Maine to the equator,
The force can show one sober operator."

CHOPS.

In its sitting of the 25th of October, the Paris Academy of Sciences heard a paper on an electro-motor, invented by M. Clerfils, of Havre, designed to replace steam power in most of its applications. The expense will be much less than in previous systems, the inventor stating that the maximum cost will be two-fifths of a cent per horse-power of fifty-four foot pounds per hour of work.

[Written for THE OPERATOR.]

Love Struck by Lightning.

BY ONYX.

It was a beautiful morning in the early part of summer, when all nature seemed content, that Rosedale was honored by the appearance of a telegraph operator who had been appointed to preside over the destinies of the new office just opened there.

The operator was a young lady, fresh from the city of N—, who had there learned all the "ropes," having gradually risen from the humble but honorable position of office-boy to that of operator. She had wondrous blue eyes, and fair, shimmering hair that outshone the famed Godiva's in its luxuriant wealth.

Her "bright, particular star" was the handsome Charley L—, who had worked in the same office with her at N—. Charley had promised to write very often to her, and the promise was faithfully redeemed.

Fannie had a great *penchant* for practical joking, and Charley, in his letters, had earnestly striven to convince her that these jokes were likely to lead to some dire trouble if she didn't abandon them; but all to no purpose, as the sequel will show.

The line extended from N—, forty miles distant, through eight villages, including Rosedale and Kenyon's Corners, to B—, twelve miles further, where it was well looked after by the junction operators.

Kenyon's Corners was the happy possessor of the talented young artist, Elijah Perkins, who was the "boss operator on that 'ere line," and he didn't want you to "forget" it, either. Elijah was not slow to assert his claims as a suitor for the hand of the lovely Fannie, and soon had the felicity of knowing that he was master of the situation, and uppermost in his fair one's thoughts. Every witty and gushing phrase that could be scraped up was wafted on the electric cord to his darling, and Fannie herself enjoyed the fun immensely, and was sometimes quite as sentimental as he was. At length, when love could hold out no longer, Elijah resolved to visit Rosedale, and in his darling's own sweet ears pour forth his pent-up passion.

Having procured the services of the operator at B—, he forthwith proceeded to array himself in the most gorgeous outfit of store clothes to be had in the "Corners." While waiting for the stage to bear him away, he told our heroine that he would be in her presence that evening, and hoped she would be sure to meet him. She told him that the minutes would seem as years till she saw his dear face, and that she would meet him herself at the door. "Come right straight to Squire M.'s and I will be there ready to clasp you in my arms, my dear Elijah," she added. "You must not, however, expect to see the slight maiden that I was when I first came to Rosedale, for in the past few months I have got terribly stout. By-bye, sweet, till we meet, and then—" (grounded, by Gosh!).

The ill-mannered ground having unceremoniously cut short their conversation, our hero was compelled to await in silence the arrival of the stage. At last it came, and, having changed mails, the driver mounted the box, and the stage sped on toward Rosedale.

Our hero was in his sixth heaven, and the seventh was rapidly approaching. But would he *ever* get there? "Gosh all hang these tarnation horses, they ain't worth shucks! If I had my dad's Betsy here, I bet she'd go fast 'nuff! Dad was a consarned old fool to sell that 'ere mare, anyway."

Eventually they reached Rosedale, and our hero's heart beat high with tumultuous joy. Hastily swallowing a stiff applejack, and stuffing a box full of "jokes" into his capacious mouth, he sallied forth to his "Heart's content."

He speedily came to Squire M.'s, and rushing up

the gravelled path, was soon at the door. Ere he had time to knock for admittance, the door was opened, and in the darkness he immediately recognized the rustling of a dress, which he, of course, supposed was his adored. Othello-like, he advanced, and, clasping her in his arms with herculean vehemence, showered fragrant kisses on her ruby lips.

Our hero had just made up his mind that he was the happiest mortal on earth, when, to his consternation, a suppressed voice of rage and insulted virginity burst upon his ears in this wise:

"Why, de Lor' bress my soul, honey, what for you huggin' and kissin' me dat way, just like ye was a bar? You mos' took my breff away. Ain't ye got no better manners? I'se a speckable culled lady, and don't want' any more dis yer foolishness. 'Ye hyar me!'"

To say that our hero was dumbfounded, would be putting it *too* mild.

In the parlor doorway stood Fannie, as cool as a cucumber, with one arm around Charley L—'s waist, and the other pressed against her aching side, so convulsed was she with laughter. Nor was Charley less agitated; while Dinah, the cook, who had been sent to the door to watch for Eli's coming, stood with arms akimbo, looking as if she could call down the "cusses ob Zion" on his wicked head.

Our hero waited to see no more, but smothering a terrific "Gol darn," he snatched up his white, broad-brimmed castor, and rushed madly from the house, nor stopped till he reached the "Corners," where he hastily packed his valise and started West. He now holds forth as station-agent at Station 48, U. P. R. R., in close proximity to "Bolivar Doud Iron," of Continental fame.

Fannie had told Charley to be sure and come up to Rosedale Thursday evening, as she wanted to see him particularly, and it is unnecessary to say he didn't disappoint her.

After they had laughed over the matter until long after bedtime, and the light had burned low, he slipped a circlet on her finger, and Fannie said she didn't care if it *did* take place the following month; and we are *sure* it did, because we heard Charley L., Jr., telling his ball-club how old bald-headed Elijah Perkins tried to make love to his ma, and how he hugged the black cook in mistake.

We are satisfied, also, that the once gallant Eli has become a confirmed bachelor, for when we spoke to him over the wire recently on the subject of matrimony, he set the matter at rest by saying, very decidedly:

"No, sir! I would as soon attempt to entice a star to perch upon my finger, or the wind to toll me like a dog, as to ever make love to a woman again."

[Written for THE OPERATOR.]

Pepper.

A MAN WHOSE GENIUS WAS NOT APPRECIATED

BY SY. E. SMITH.

"He has gone from our gaze,
Like a beautiful dream."

And with his departure the disagreeable fact forced itself upon my mind that we, as a profession, are rapidly degenerating. It is useless to deny it, although I have long and faithfully tried to ignore it, and have hoped against hope that something better would "turn up," but everything that would naturally have a tendency to elevate and improve us, socially and morally, seems to "turn down" with a persistency worthy of a better cause.

At one time the various telegraphic journals did not have occasion to record any enomities committed by the profession for the space of several months, and I was beginning to anticipate the time, in the near future, when to be a "telegraphist" was to command the respect and reverence ac-

corded only to such men as George Washington, when my bright dreams were suddenly and cruelly dispelled by the announcement that one of "us" had aspired to a seat in the Legislature of one of the Western States.

One of our brightest ornaments has now left us, one whose career should be held up as an example worthy of emulation to those desirous of acquiring fame in telegraphic circles.

Pepper has resigned.

Aye, well might ye tremble, ye executive of a giant monopoly, when these words were borne on the wings of the wind, as it were, to your affrighted ears! Well might ye regret the narrow-minded policy pursued; but I digress.

As the mournful intelligence flashed along our circuit, many a head was bowed, and many a sad and bitter tear was shed.

Now, thought I, will the various telegraphic journals of this continent teem with tributes of respect to him, and treat us with mementoes of his brilliant greatness. But, alas! I was sadly mistaken. I did not fully realize the jealousies against which all great men have to contend. Unwilling, however, that he should leave us without the consciousness that he was appreciated, I take it upon myself to chronicle the events which bring him into prominence as an operator, hoping that my inexperienced pen may cause his name and renown to be handed down to future generations as one to be proud of.

After working hard for two days learning the alphabet, he obtained, by the help of an influential friend, a position at "X," as an operator under the B. S. & R. R. Co., and on the fourth day of his "student-ship" was duly installed. As "X" was not an easy character for him to make, he immediately addressed an order to all offices that on and after that date his call would be "W," but the circuit manager having the audacity to disregard the order he recalled it.

When he attempted to receive his first message, his register refused to print. Most any other person would have entirely lost their self-possession on making this discovery, but not so with Pepper. By the aid of his alphabet—which he had pasted on the desk before him—he requested the sending operator to "frite slof my register don't fork es I must taj ty sound." Strange as it may seem, the sender positively refused to accommodate him. He, doubtless, had forgotten the time when he himself was a plug.

By the next train a repairer arrived at "X." After adjusting the register and cleaning the relay points—not heeding Pepper's suggestion that he should clean the back points—he set about putting in a ground wire. As he was fastening the wire to the gas pipe, "P." raised an objection, "as there was too much escape to that to form a good ground." Objection overruled.

The next day "P." tore up his alphabet. When train No. 2 passed thirty minutes later, he informed the dispatcher's office that, "No. K rust fast VT mins hen." Another alphabet was immediately presented to him, with appropriate ceremonies.

Two weeks later, after raising all offices, he sent the following: "To all offices, I have this day taken out my register and will hereafter receive by sound. Sqr. Pepper, X." He received a letter that night headed, "Superintendent's Office," and the next day he ordered a roll of register paper.

After enduring many minor persecutions of a similar nature, he resigned, contrary to the wishes of his brother operators.

No more shall we hear of the initials "C. I. O. K. P. X.," no more shall we admire his persistence in struggling for circuit in the face of unpopularity 22's, 47's, and 5's; no more shall we—my feelings overcome me, and I pause to wipe away the tears which are falling fast.

The Operator,
A Journal of Telegraphic Literature,
PUBLISHED BY
WILLIAMS & JOHNSTON.

Volume IV.

Whole No. 44.

NEW YORK, DECEMBER 1, 1875.

TO OPERATORS.

THE OPERATOR has at the disposal the collection of any telegraph papers published in the United States. Just as we are desirous of having the using of the telegraph as an additional inducement to our business, by handing out visiting or addressed cards to our customers telegraphed for them. The same offer applies to restaurants and hotels. The cost of the services would hardly equal the price of a good newspaper. If ordered separately. Some restaurants should in all cases be accompanied by the cash or a Post Office order.

In addition to the above we offer the following prizes for clubs:

For a club of six yearly subscribers we will send one copy free

For a class of over yearly sales of over \$100,000 we will give a first-class Inductarium.

For a club of twelve yearly subscribers we will give a first-class Morse Key, Western Union pattern.

For a lot of different reasons we will give a first class ticket Sunday on a Limited set.

For a club of twenty-five yearly subscribers we will give a first-class Morse Key, Giant Sounder, and one year's subscription to THE OPERATOR to the person sending the club.

For a club of forty yearly subscribers we will give a good substantial American Silver Watch.

NOTICE.

TELEGRAPHERS visiting New York will, by calling at the office of THE OPERATOR, No. 7 Murray Street, be shown through the different telegraphic institutions of the city.

We are reexamining our money system, and would be happy to receive the views of any of the fraternity throughout the country who would be willing to act for

When requesting a change of address, subscribers will please give their *former* as well as their present address.

WE always send THE OPERATOR at the expiration of the year, or of the time for which it is said; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

To our correspondents we would say, please try and have your letters in our hands at least five days before publication day; less time than this crowds us too much, and we are anxious to give each person a fair chance to see the products of his pen in our columns.

WHENEVER an operator sees anything in his local paper which he thinks would be interesting to the readers of THE OPERATOR, he will confer a great favor by marking the piece and mailing it to us, P. O. Box 3333, New York.

Very few operators realize that before the age of twenty-five the fixtures and framework of their characters are formed for life. Yet it is most always true. Let the years from eighteen to twenty-five be devoted to pleasure, idleness and dissipation, and the thoughts of that period will give the tinge to the whole life-thoughts. The vicious and corrupt thought will tinge the heart with a darker hue long after the memory has forgotten the cause. The idle, vulgar joke, and the obscene speech, will leave their foot-prints that will render the tongue awkward and silent when the heart filled with wisdom would have spoken words of truth and sobriety.

NEWSPAPER ENTERPRISE.

The New York *Herald* of last Sunday, November 28th, published two columns and a quarter of cable news. One despatch, which our distinguished contemporary calls a cable-letter, covered a column and a half. Speaking of this latter, the *Herald* says:

"Our pithy letter from Paris by cable gives the literary and theatrical news of the gay capital; the activities of managers, actresses, artists, and authors; the plans and programmes; the dissensions and legal skirmishes; the quirks and quiddities of the witty, contentious and irrepressible Gallic life. How ample a scene the cable sketches for us in its few lines; how filled with notable people; how well supplied with the indications of the kind of labor that makes an impression on the world! Offenbach suing a manager; Rossi guessing at the sensational probabilities of Shakspeare; Paris determined to have the greatest of all circuses; two American prime donne storming the citadels of fortune; Worth, the high priest of the sublime in feminine attire, financially in danger. These are a few of the lively themes lightly 'laid in' on our canvas of Paris life.

"This cable-letter, if we may coin a word which becomes necessary to explain the modern steps in journalism, is now as much of a feature in the *Herald* as our Washington dispatches. Paris and London are as near to New York, in a newspaper point of view, as Washington and New York were when the telegraph first became a system. In this sense journalism becomes an assurance of peace. It binds the nations together as it binds the States in a union of intelligence and peace. The Paris cable-letter, which must in time be followed by other cable-letters from the great news centers of the world, is another step in the path of progress."

The *Herald's* enterprise is very commendable. The cost of this cable-letter must have been considerable. But it must not be supposed that all of it was actually sent over the cable. The newspapers tell us that in the intellectual department of the *Herald* the cable news is very much inflated.

Once, with a child-like confidence, we put faith in what newspaper men said when they headed an article "Special Telegram," but our eyes were opened and our confidence in human nature somewhat shattered upon one occasion, when we received a dispatch of forty words for a newspaper, and found it next morning transformed into a "Special Dispatch from our own Correspondent" of over two columns.

The enterprise of the English newspapers in the use of the telegraph is something remarkable for a country so much behind us in "go-a-headism."

The London correspondent of the New York *Tribune*, speaking of special telegraphing in Europe,

"Two of the penny papers find themselves at last most reluctantly driven to follow the example of the *Times*, and get their letters from Paris by wire instead of by post. When the *Times* took the lead in this, it was evident the other papers would have to follow sooner or later. The world in which penny papers circulate is not so wholly apart from that of the *Times* as their conductors tried to believe. There are the clubs for one thing, and there are many other places where all the London morning papers may be seen side by side. Now, the penny papers could not go on forever printing news twenty-four hours old. A good deal of the Paris news supplied to London consists of political extracts from leading Paris journals, or of comments on them. To the *Times* these came by telegraph, and when they appeared in the other papers the following morning as correspondence, there was absolutely nothing to prove that they might not be copied out of the

Times of the day before. They were not, but they looked as if they were, and this is a world in which not only evil, but the appearance of evil, has to be avoided. Of this the *Telegraph* became finally convinced, and its arrangements are now complete for receiving everything from Paris by telegraph. It is to have the exclusive use of a wire from 9 each night till 3 next morning. For this it pays \$17,500 a year. The contract is simply a duplicate of the *Times*' contract."

But perhaps the most liberal use of the electric fluid in the world is by the London *Times*. This paper has made arrangements for wiring a column of the Prince of Wales' doings during his India trip every day at a cost of about \$7,000 daily.

Running Wires Underground.

Telegraph poles have become so numerous in this city of late years that public opinion has voted them a nuisance, spoiling the appearance of the thoroughfares, and wants them removed, and the wires run through the streets in tubes under the ground, as is done in London.

It was brought up in the Legislature last winter, but no definite action taken. The companies saw, however, that the change would have to be made eventually. The Western Union has just asked for, and been granted, permission to lay tubes and wires under the pavement from its main office through Broadway and Wall Street to the office at 14 Broad street, and through Maiden Lane to 134 Pearl.

Besides experimenting on the feasibility of putting all the wires in the city underground, the practicability of pneumatic tubes will probably be tested. Most of our readers are aware that these tubes are extensively used in London, and some of the larger cities of England, for transporting messages short distances, and are said to work admirably.

The resolution of the Common Council was passed with an amendment prescribing that the necessary repairs to the street be done at the expense of the company, and under the direction of the Commissioner of Public Works; and the privilege to continue only during the pleasure of the Common Council.

We are sorry to learn that two children of Mr. R. M. Mattocks, of Cotton Exchange office, have recently died of diphtheria. He has our sympathy in his bereavement.

We mail 4,000 visiting cards to yearly subscribers this week. Please show them to your friends. They are very handsome.

Our circulation has been increased 300 during the last two weeks alone. Those operators who have interested themselves in our behalf will please accept our thanks. The names are coming in very fast, and we see no reason why the 2,000 we have this month should not be made 3,000, or even 4,000, before the first of January.

To Advertisers.

2,000 copies of this issue of THE OPERATOR go by mail to subscribers in every State and Territory in the Union, and also largely through Canada. We are the only telegraphic paper that has any circulation worth speaking of in the Dominion. THE OPERATOR has now a larger circulation than that of all the telegraph papers in America combined, if we except the Western Union official *Journal*, and its advantages as an advertising medium are therefore apparent.

A Romance of the Rail.

A TELEGRAPHER MAKES LOVE TO A YOUNG WOMAN,
AND "CUTS OUT" HER "FELLER."

Harry Northcott, the lightning manipulator at Bears River Junction, was the hero of a little romance during his vacation last summer, which is worthy of a place in the telegraphic literature of the day.

Harry is one of your handsome men, and, as a young lady once said, is "Just chuck full of poetry." He was on his way home when the train stopped at a small way-side station, and two solitary passengers got on.

They entered the car in what Josh Billings calls Indian fashion. She was in the lead, a position she is not likely to surrender as long as they travel together. A tall brunette, with a sharp face, piercing black eyes, hair black as a raven's wing, a long aquiline nose, with a mole on the side of it, a mouth the cut of which betokened determination and force. She had passed the shady side of the teens, and had climbed to the apex of a quarter of a century. He was a guileless youth over whose two-colored head some eighteen summers had passed, an innocent, hobbledehoy, just released from his mother's apron-strings. On him she cast loving glances, and his face, suffused in blushes, was turned with a timid, appealing look to her.

The car was crowded, and eligible seats not easily obtainable. About the middle of the car sat our friend Harry, occupying a seat to himself. Thither the irrepressible lady pressed her way. The gallant Northcott rose, and, with much courtesy, invited her to take a seat next to the window, and when she was seated he calmly ensconced himself upon the vacant half of the chair. By this time the young man whom she was escorting had come up. He placed his hand on the back of the seat, looked appealingly on the face of his protectress, and timidly around the car. He was evidently embarrassed, and did not know what to do with himself. The sharp-nosed brunette eyed the sedate Henry by her side with a sharpness that almost amounted to malignity.

But he seemed all unconscious of the scrutiny to which he was subjected, and looked away over the fields through an opposite window.

The brunette could no longer endure to see her callow beau standing forlorn, and thus she addressed the sedate telegrapher, whose eyes were wandering far away, and whose thoughts were with the dear ones at home:

"I say, mister."

"Well, say on," responded our hero.

"I say, look here, mister."

"Well, what have you got to show me?"

"Mister, I want you to know that this young gentleman standing up there is my feller."

"Oh! I'm glad to hear it. How long have you had him? Take care of him, I suppose?"

"Now, you just look here, mister; this young man is my feller, and I'm bound to see that nobody shall impose on him. You hear me? Now, if you had any manners you'd just get right up and let him have a seat by me."

"Oh! I am very happy in your society. You can not imagine how much pleasure it has given me to furnish you a seat where you can see through the window. Besides, I always took a special delight in being near charming ladies like yourself," replied the ever gallant Henry.

"But, sir, he is my feller, sir, my beau—do you understand?"

"Is that so? Who would have thought it? And does his mother place him under your charge when he goes abroad?"

"Now, you look here, mister, me and that young man expects to be engaged, and we've been keeping

company together, and me and him wants to have a talk together, and you are real mean if you don't give him a seat by me, so that we can talk; that's what I think."

The imperturbable lightning manipulator straightened up, then leaned over in the direction of the sharp-faced brunette, smiled most benignly and lovingly on her, and spoke thusly:

"Charming lady, I would be most happy to accommodate you, but you see I'm a pilgrim and a stranger, wayworn and weary, and a long way from home. Besides, my heart is just now beating a tattoo of ecstatic satisfaction because of your charming presence. Being a bachelor, and so near one so lovely and engaging, how can I forego the pleasure I now enjoy? I have had dreams in my time—bright dreams—as I have wandered through this great big world, of some time meeting one to whom I could reveal all this sad heart of mine would fain no longer conceal. You are the impersonation of my dreams, and now would you drive me from your lovely side? Say, has no bird sung in your heart? I saw you come as a star rises above the horizon, and the light of your eyes has illumined my soul. Say, beautiful stranger, will you drive me hence?"

Here our hero paused. But noticing the flush of pride that rose to her cheek, he deliberately bent over and whispered in her ear:

"I know a cheek whose blushes,
As they trembling come and go,
I could gaze upon forever,
If it did not pain thee so."

The poetic Northcott ceased to speak. The fire had gone down in the brunette's eyes, the severe expression had vanished from her face, her stern lips had relaxed their rigidity and parted just enough to reveal the ivory structure within, and, in a tone that was soft and low, she asked:

"Did you say you was a bachelor?"

"Aye, beautiful stranger, that's my fortunate station, and

'Sooner shall the blue ocean melt to air,
Sooner shall earth resolve itself to sea,
Than I resign thine image, oh, my fair!
Or think of anything excepting thee.'"

Then the brunette turned her eyes softly upon her "feller," who stood twitching his fingers and gazing around in an abashed, timid sort of way, and thus she addressed him:

"Tom, I guess you'd better git another seat, while I speak with this gentleman."

UNO.

A Telegrapher in Disgrace.

QUINCY, ILL., November 24.

A few evenings since the Toledo, Wabash and Western ticket office at Carthage was broken into and robbed of some money and a large number of tickets. Suspicion fell upon a telegraph operator in the office, Mr. J. E. Benbow, a young man of heretofore unblemished reputation. He was arrested and has made a full confession, telling where he buried the plunder. Not only did he confess this, but also that he had, from time to time, sent paid dispatches to be collected, and whenever paid by the receiver had pocketed the money he received. In this way he confesses to having stolen about forty dollars. In default of \$1,500 bail he now lies in the Carthage jail.

The San Francisco Libel Suits.

SAN FRANCISCO, Nov. 20.—The complaint of James W. Simonton as the proprietor of the *Alta Californian*, for libel, has been filed with damages of \$50,000. The suit is based on an article in the *Alta*, of September 24, accusing the plaintiff of detaining press dispatches and conspiring to break the Bank of California.

Texas Jack.

"D'ye want to hire any fust-class men?"

We looked up as this question was bellowed in our best ear in tones like the roar of the Bull of Bassan. We looked up, we say, but we mean down; for the sound came from one of the most curious little men that we have ever seen. He could not have been over five feet high, nor weigh more than a hundred pounds; but it was his "get up" more than his size that struck us as peculiar. He wore a soft felt hat with a brim at least six inches wide; no coat, but instead an immense red flannel shirt, unbuttoned at the neck, to display what he afterward called his "brawny chest." Around his waist was buckled a broad belt, in which he had two navy revolvers and a dirk knife. He had a pair of black corduroy pants and a pair of Wellington boots cut so high they almost hid his pants.

"D'ye want to hire a fust-class man, I say, boss?" he again inquired.

"Where are you from, my friend?" we mildly asked, he being a walking arsenal, and fire-arms our especial abomination.

"I'm from Texas, I am, and I'm a crack man, too. I can take anything, from the slow man at Bolivar City to Patsy Ayre's lightning," he responded.

"Well, my friend," we replied, "we are in need of a first-class man now, and but for your fierce personal appearance, we should be tempted to give you a trial."

"Oh, darn the togs, boss, I'll soon strip o' them. Just give me a trial, and I'll get the finest swell suit o' clothes in Washington inside o' three days. You don't know me, boss; I'm Jack L—m, I am, and in Texas I was the first sport o' the State. See these beauties (pointing to his revolvers), I've killed my five men with 'em before nine at night, 'cos they got the bulge on me at poker."

We don't know to this day whether we done right or not, but we hired this "lightning man." We kept him a month, and then gave him passes back to Texas. He was a "star" in the world that he came from, and we hadn't the heart to rob that world of its most brilliant "light."

The day before he started South he wanted to bet us ten dollars that he could hit a nickel through the figure "five" as far off as he could see the coin with a telescope.

We told him we didn't bet. We thought it was a bad habit, and advised him to break himself of it, but he cut us off abruptly by saying:

"Bet! Why, I'm from a betting family; my grandfather bet, my father bet, and I'm a better. Why, I'd rather bet than eat. It's more natural."

We felt our great loss when he left us, but found consolation in the beautiful thought that the greater our loss the greater the Texans' gain, and that rendered us happy.

The following is from a young lady away out in Iowa.

EDITOR OF THE OPERATOR.

Your visits must be drawing to a close. Should be real sorry to have them stop altogether. Am several miles from any telegraph office, and know not, sometimes, for a chance to "chat" with old friends; but find it almost takes me back to Little Rhody again to see your little paper.

Hope, as some one else has said, you will come every week sometime and that soon. I read some of our Western papers and think you may feel just a little pride in it, though I think are all doing nicely—the *Alta* for instance.

Well, don't mean to write you a letter though all is far in love and telegraphy. Enclosed find subscription for another year.

CORRESPONDENCE.

Oney Gagin's Art Labors.

HEROIC PERSISTENCE IN THE FACE OF DIS-
TORTIONS.

PORTLAND, DECEMBER 1875.

DEAR OPERATOR:

I came across a beautiful passage in the *Almanac* recently. I don't know who the author is, but I shook hands with him mentally as I read it. Says I, "Old boy, you've said a good thing." It was this: "Labor conquers all things."

I wish I'd come across that before; who knows how many things I might have conquered by this time. Mrs. G. says it's a good thing, and wishes I'd test it on the neighbor's cats, or the mice in the pantry. Mrs. G. has a peculiar faculty for clipping a fellow's wings when he aspires to greatness.

(She is on a visit to her mother-in-law, and won't see this, so keep mum.)

I've been looking around for something worth conquering in the manner spoken of. If the author had only said *how much* labor it takes to conquer all things!

I saw some of Stanford's crayon pictures; so life-like, artistic, inspiring! I said, here is something worth laboring for, and a pleasant pastime for these long winter evenings. If I can come to execute a picture like those, it will be worth all the labor it will require to conquer it; besides, it is every way advisable to have some interesting employment for a leisure hour. I learned the preliminaries, procured my crayon, drawing-board, and easel, and set to work.

Stanford said I was to get first an idea of "perspective." This might be gained by the use of a pile of blocks or boxes. I was to learn to make straight lines, then curved, then spherical, and to shade correctly, and then I would be ready to try the cast of a head, and after practicing on the cast in different positions, could soon do "real faces."

I had tolerable success with the blocks. The picture I made certainly resembled *something*, and after I had told Mrs. G. it was blocks, I judged from the silent awe with which she contemplated the picture, that she *was* resembling.

Then I executed a "sphere;" so did the youngest Gagin, from my shoulder to the floor.

This little episode threw me a little out of my "sphere," and flattened it somewhat at the poles, but it was a "sphere." After all, I felt sure of that, because it wasn't anything else.

My next attempt was at the cast of a head. It was a "Flora," but my first attempt transformed it into Tom Allen (and Tom Allen of N. Y. office; I want that distinctly understood) after the twenty-fifth round, "badly punished," but I came up smiling for a second attempt, and improved it a little. It was now a very respectable gorilla. (I think I understand Darwin's theory better than ever before.) The shades were worked in finely, and the lights excellent. I thought I might, perhaps, work it up into one of Raphael's cherubs, as the eyes were looking skyward, but this one redeeming feature was hardly sufficient or angelic enough to warrant a "family resemblance;" besides, Raphael never did me any harm. When I thought of that, justice prevailed, and I finished it up as a dying idiot.

Bear in mind it was my first attempt. It encouraged me. I procured a photograph of Wentworth, our cashier; measured it up to life-size, and then went at it with "stump" and rubber. I soon had a "speaking likeness." To me it looked as natural as life; if anything, more so. Mrs. G. said it looked so much more natural than life, she hoped I wouldn't think of displaying it in public. But I did. I took it down to the office and hung it up there.

The boys (bless their charitable hearts) said "good," but Wentworth was to give the casting vote, and I waited anxiously for his "O. K." When he came up stairs and looked at the picture, I read my doom in his features, as they changed from his usual serenity to gloom. Evidently there was something wrong about that picture.

I went outside into the fresh air, and stayed till Wentworth had gone. Ever since I read Hall's *Journal of Health* I have had a great respect for fresh air.

I never got "O. K." from Wentworth; perhaps the picture was too much of a "dead head." At any rate, I found it a few days afterward neatly rolled up among the cast-off stove funnels.

This was depressing, but to give up all hope would be more so; therefore I up and at it again. I got a new stump, more crayon, some rubber, and a porte-crayon, and began on Mrs. G., an easier subject, as she wears something less than four tons of hair, and hair is easy to reproduce.

That's where I made my mistake.

That was the rock upon which I split, or, as the poet has it, "the submerged reef to which for days I clung," catching at crags here and there, tearing my ambition upon jagged rocks, and ending in a determination to let art go to thunder, and go back to the tannery.

I got the back hair too low (mild reproaches from Mrs. G.) Front crimps were too straight (double-barreled remonstrance from Mrs. G., in which several of the lighter articles of furniture took an active part).

The paper somehow got crumpled, and gave the picture a decided "hair lip."

Trying to smooth this out added an incipient one-sided moustache.

Tears from Mrs. G., with the remark that I had better practice on some wood in the shed, and I was obliged to use my authority before I could resume my labor of love. (She isn't expected home till week after next.)

Next and last came the necktie, the easiest thing, I supposed, in the whole picture. But it wasn't. And yet I drew and erased again all the various styles of necktie in vogue, and a good many that ought to be in vogue, but are not. The last one rubbed out settled it, for the paper, grown thin from too much erasing, began to let in daylight from the other side, and show how much better it is to draw anything upon the imagination than upon material things that perish.

There was a good deal of labor expended upon those neckties, but it never conquered one of them.

There they are, in my memory, looking up at me. Some were careless, off-hand; some prim, unassuming; some were simple, unaffected; some stylish, *a la mode*, but upon all was the unquestionable plague-spot of imperfection.

How much labor it would have taken to conquer them must remain a mystery till I learn the address of the writer of that passage: "Labor conquers all things." Still I shall not go back on him till I test it a little farther, and, lest neither you or I, my beautiful reader, should ever learn the amount of labor necessary to perfect ourselves in any worthy undertaking, let us labor on. If twenty-five efforts will break down the barriers in our way, shall we stop at the twenty-fourth effort? Nary a stop.

ONEY GAGIN.

How to "Escape" "Trouble."

If you wish to be happy, light-hearted, and gay,

With nothing to "cross" or to push you,
What can you do better than "break" on each letter.
When a fellow is trying to "rush" you.

New Orleans—The Staff this Winter—How
"Go West" originated.

NEW ORLEANS, LA., NOV. 1875.

DEAR OPERATOR:

Since my arrival in this section of the country I have been looking around for some person who was a subscriber to your little paper, but as yet have failed to find a single one. The reason of this is, so they say, that when they subscribed they did not more than half the time receive their paper. This seems to be a crying evil, not only with *THE OPERATOR*, but with a great many other papers for which people subscribe and pay for in advance; but we are going to try you again, and hope you will do all that lies in your power to remedy the evil.

It will be interesting to some of your readers to know who are here this winter, and with your permission I will try and tell them. First is Mr. Irvine, the chief, a gentleman well known to many of the old stagers, he having been here for the past six years; next, Mr. Hunt, a gentleman who for some time past has been taking the night report. He was appointed assistant chief on the day force on the tenth of this month. Mr. Fisher, another old hand, and formerly assistant chief under the old *regime*, is now working the Montgomery circuit. Ed. Wedin *does* the St. Louis and Memphis wire, and has very little time to smoke cigarettes, that wire being rather heavy just at present. Dick Babbitt, the "beautiful," pays strict attention to the Texas lines, and I must say they need all the attention he can give them. There is also a new importation from New York, a Mr. Williams, working the Cincinnati and Louisville wire. They say he gets rather stuck on our method of reckoning money down here. It seems, as the story goes, that he went in to buy a cigar the other day:

"How much are these?" asked Williams.

"Two for two bits," answered the dealer.

"That's one for a bit?" said Williams.

"No, fifteen cents for one."

"Oh! Then I'll take two;" and he laid down twenty cents.

"I said two bits for two!" yelled the cigar man.

"Well ain't that two bits! What's the matter with you?" answered Williams.

And it took that cigar dealer at least ten minutes to beat it into his head that a "bit" was twelve and a half cents, and, consequently, that two bits make a quarter.

He says he doesn't like our money system a "bit."

Patsy Ayres arrived here on Monday last. He is working the New York circuit, and it is said that Al Gordon gives Tom Allen five dollars a month to fill in dates and time his business for him when Patsy gets a pile.

The balance of the day force consists of George Curtis, formerly of Chattanooga. Mr. Curtis has probably the largest and most valuable library of any telegrapher in the country. O. K. Riddeck, the member from Alabama. This gentleman is on intimate terms with a prominent widow here, and it is said will soon be married. Paul Lelamp, "a native, and to the manor born," and probably the most handsome man in the business. These gentlemen, together with Hill and Davis, two clerks, and "Jimmie," who collects specimens of penmanship from our desks, complete the day force. And now for the owls. Mr. Chase, a gentleman who is a very good man for the "boys," as well as for the company, is the chief of the night force. The well-known Billy West does the heavy work on the New York circuit, and, as is usual with him, does it well.

Speaking of West puts me in mind of a good anecdote. It was said that the late Horace Greeley was an intimate friend of Billy's family. Some years ago Billy went to New York on a visit, and while there got in with Hutch. Bellows, and others of the

"old gang," and before he finished was a little short of money. Presuming on old acquaintance, he called on Horace to try and borrow enough money to take him to Memphis. The old man listened to his story, how he had been drugged and robbed, etc., after which, without saying a word, he went to his safe, took out a package of money, and, as he handed it to Billy, said: "Take four hundred dollars and go, West." West went. The story got abroad, but in another form, and, although I can not vouch for this version, it is said to be the true one, and Billy doesn't deny it. Jack McHugh, another well-known lightning man, who for a long time was in Boston, takes the night report. Fred Moxon, one of the proprietors of the *Electric*, and formerly of the St. Louis office, keeps the Texans quiet. Ed. Fullum, formerly of New York cable department, takes care of St. Louis and Memphis, and Cincinnati and Louisville wires. Patch, a south-western celebrity, who for many years was stationed at Memphis, but more recently was one of Chicago's "extra" men, does the business for Shreveport and the way offices on that line, and Mr. Wolf does the same for Vicksburg. This is all our night force, and a very fine one it is. We have a fine airy building for our office, situated on the corner of St. Charles and Gravier streets, directly opposite the St. Charles Hotel. The first floor is occupied as the receiving and delivery department; the second as the operating-room and Superintendent Flanery's office, and the third as the battery and store-rooms. The city is very gay this season, the pleasant weather and approaching races bringing a great many pleasure-seekers here. I will now close this rambling letter. I have done as you requested, and found out how things were getting on in the operating department to the best of my ability. In my next I will endeavor to write up my own department with which I am more familiar, and will try and make it more interesting.

Yours, NATIVE.

In Time for the Centennial—Champion "Heavy" Man—Bridge Destroyed by Fire—How's this, X Y Z?

PHILADELPHIA, Nov. 24th, 1875.

TO THE EDITORS OF THE OPERATOR:

Things in the Quaker City are quiet, telegraphically speaking, and but very little of anything to note; but such as we have we give thee.

Our friend Frank Schaeffer, of "S X" office, 900 Green Street, has been presented by his loving spouse with a fine boy. This will serve as another "magnet" in Frank's home, and we hope he may make this the "key" to another "relay" of the same kind.

We have a new man at our main office. Not that new men are such a rare occurrence in that celestial spot, but such men as this one are a rare occurrence in any spot, celestial or—otherwise. His name is Saxton. His weight is somewhere in the neighborhood of 225 pounds. On the day of his arrival our young friend Kepler, while guiding the mystic element through the iron path yclept No. 28, was trodden on by this elephantine specimen of humanity, and since that time has worn his foot in a flour sack, and gladdens the eyes of the weary seekers after answers with the words IXL=100 lbs. A stray messenger-boy happened to be seated at one of the tables unperceived by "Sa," and he let the whole weight of his immense rotundity come down upon the luckless child with a thud that made the office shake and tremble. There was a crush, a cry, and all that now marks the last resting place of this martyr is a grease spot in the center of the chair. We drop a silent tear. Schah!

Mr. Saxton for a week supplied the place of Mr. Taylor, who was laid off on account of his feet (he

being a terrible sufferer from rheumatic affections), and is now filling the vacancy caused by the removal of Mr. Eastlake, whose resignation was requested for appearing drunk on duty. We are sorry for Mr. E., as he is a man of education and culture, and were it not for this one fatal habit he might one day be a prominent man in the country. Saxton (despite his little peculiarities in regard to messenger-boys) is winning golden opinions from the operators, and is very much liked by all hands. Long may he wave!

Our circle has been saddened by the presence of the death angel in our midst. W. W. Leeds, chief clerk to Superintendent Sweigard, of the G. and N. Branch, died on Saturday morning last. He was for some time operator in the office of the General Dispatch of that branch, and when Mr. Sweigard was made Superintendent he appointed Leeds as his chief clerk. His kindness and willingness to oblige will long be remembered by those who knew him.

The bridge over the Schuylkill River at Market Street was destroyed by fire on Saturday afternoon last, and all the wires of the A. and P., W. U., and A. D. T. Companies were completely destroyed. The wires crossed the structure, and, of course, when it fell into the river the wires went with it. However, as the fire occurred late on Saturday afternoon, the business suffered but little delay, a force of men being put to work immediately and repairs made. The P. R. and P. Company's wires suffered but little, the majority of them crossing the river at the Falls Bridge, about four miles further up the river, and Columbia Bridge about a mile and half below the Falls, and were all in working order in time for business Sunday A. M.

I have two bulls for you this week. One on Sam at S X. *Espan Bros.* received *E. S. Penbreth*; and the other on Taylor's sending. For *Thomas Hillegass*, he made *Thomas Hill Emans*. More anon.

Give your correspondent "X Y Z" at Albany my best respects. Tell him I enjoy his letters immensely, especially those portions of them which he engrafts from mine. Tell him to run back for the last three or four issues of THE OPERATOR and see if he can't find that idea of his (?) in regard to "Duplex inventions" fully expatiated on in one of my letters. I won't be hard on him, though. "Go, and sin no more." Yours, truly, NICK O'TINE.

The Marriage of a Prominent Telegrapher.

ALBANY, N. Y., Nov., 1875.

MESSRS. EDITORS:

To the majority of the uninitiated, matrimony is an enigma. To a celibate of shifty mind it is an eternal source of perplexity. A devout searcher after the truth of the matter is lost in a maze of conflicting theories and diametrically opposed testimony. The longer one flounders, the deeper he gets in the bogs of uncertainty. Bacon says, "A man finds himself seven years older the day after his marriage." Sometimes I think this deposition reliable; at others I regard it as a base delusion. Byron says it's "the boon or blight of all men's happiness." That sounds like common sense, but the source is impeachable. Richter says, "to love early and marry late, is to hear a lark sing at dawn, and at night to eat it roasted for supper." Versions as to the merits of this question are various as the hues of a chameleon.

Another worthy telegrapher has subscribed his faith in the efficacy of a sentiment expressed by Richter, to wit, "that no man can either live proudly or die righteously without a wife."

Mr. Dexter Van Ostrand, Supt. of the Rouse's Point and Oswego district of the Montreal Telegraph Co. in New York, was united in marriage on Wednesday afternoon, Nov. 24th, to Miss Anna, eldest

daughter of Mr. George B. Phelps, of Watertown, N. Y. The wedding was a quiet, but exceptionally pleasing affair. The commodious parlors of Mr. Phelps' residence on Stone Street were tastefully and beautifully decorated by the hands of artistic and ingenious friends. The climax of the interesting ceremony was solemnly impressive. As the classical but remorselessly thorough Episcopal service tied the knot, it verily seemed to an unsophisticated beholder as if not even the keen scimeter of divorce might sever its Gordian folds, and that, indeed, God alone should have the sovereign prerogative of separation.

Seldom, in the course of my experience, have I found the cherishing fates smiling more propitiously upon hymeneal rites. No word from any pen is adequate to define the qualities of head and heart with which Mr. and Mrs. Van Ostrand are liberally endowed. The generous esteem of numberless friends found eloquent, substantial, and sensible expression in the dazzling array of gifts displayed, no one of which would not prove as conspicuous for utility as for beauty. Those whom the "boy God" had so snugly yoked to the rosy car of Hymen, after refreshing themselves, drove to the six o'clock train, en route for New York and Washington, followed by a volley of traditional "lucky" old shoes and slippers, and the cordial congratulations and well wishes of a host of warm friends. All went "merry as a marriage bell" should. There seemed repining and somber shadows nowhere. I, however, was writhing in the bonds of tribulation. I felt lonesome. Deck and I had been dovetailed in friendship almost since boyhood. Latterly I've experienced an unending succession of calamities. Out of a batch of five boon comrades, after the duration of five years, but two remain unmarried or unengaged. To me the outlook bears a funereal aspect. I feel as if my underpinning were being fatally disturbed. Time creeps on apace. His stately movements bring many happy dispensations, but a few of us might as well "own the corn." We are about as good as consigned to that outer darkness, so to speak, where there is "wailing and gnashing of teeth."

REFUS NOVUM.

A Letter from "Down East."

WATERVILLE, MAINE, November, 1875.

TO THE EDITORS OF THE OPERATOR:

If you look on the map of the State of Maine, you will find that Waterville is situated in the County of Kennebec, on the Kennebec River, about twenty miles above Augusta, the capital of the State. The patrons of the telegraph at this place are daily wont upon at the Western Union office by the Mr. E. H. Jordan (Rn.), who is both manager and chief operator of the Western Union office assisted with great facility by Mr. Albert E. Estes. The messengers, "Coo," has arrived at that stage that he can sit with open mouth and puzzled brain trying to catch a word, or even a letter, when "P" is "sailing" "sailing" "the boss" brings him back to this world of trouble and tribulation by promptly inquiring if he has "got an answer to that message yet." Which condition suddenly reminds him that he has not yet been delivered it, and with the aid of a marker he proceeds to accomplish that desirable object.

Mr. C. P. Toward, the Western Union line, is located here, and is always on hand in case of a "cross," "ground," or other trouble.

Mr. Austin Carter (A.) is manager of the Maine Central Railroad office in this place, and also acting ticket agent.

Mr. H. L. Foster (H.) is a very good man, and has the credit of being the only one in the city who can "send" stories.

If these few lines are worthy of your good notice, if not, I presume you have no use for them.

Yours, faithfully, ALVIN AMOS.

The Quebec Office.—Changes.—Visitors.

MONTREAL, CAN., Nov. 20, 1875.

Since my last, things have been very quiet here. The only change to note is the removal of Mr. W. Sandnessen to St. Annas Boni de L. Isle office.

I unintentionally omitted, in my former letter, the names of Messrs. P. A. Boucher, store keeper and general Superintendent of repairs for this division, and his assistant, Mr. Jas. Walsh; also Mr. P. H. Rogers, caretaker of the office.

The latter gentleman has many eccentricities, which, were I to chronicle here, would occupy too much space.

Among our visitors during the past summer were E. D. Flanagan, of the M. T. Co., Hamilton; and Billy Powers, of same Co., Detroit, both old friends. They were warmly received by the boys, and shown around the Berg and Mount Royal. We had, also, Joseph Lantier, formerly manager of the D. T. Co., Prescott; and Mr. L. Jones, of Springfield, Mass., W. U. office. The latter was on his way home to Brockville.

During the session of the Provincial Parliament, which opened at Quebec, Nov. 5th, Mr. S. T. Boulet copies the French press report nights.

The Canadian Mutual Telegraphers' Association is gaining ground fast. The second annual meeting takes place here Dec. 8th.

Mr. S. J. Ritchie, late Manager of Toronto office, D. T. Co., is visiting his old home here for a few days.

In Quebec we have Mr. S. A. Kittson as Manager, John Stewart and M. Crean as operators in main office, and Mr. A. St. Laurent at the Parliamentary office.

At Three Rivers Miss C. Methot is agent and operator.

Well, I've run out of news. S'long.

G. U. LEIRD.

Discovery by a Newark Electrician.

A NEW FORCE TO REVOLUTIONIZE ELECTRICITY.

Mr. T. A. Edison, of this city, has made a discovery which promises to revolutionize telegraphy. His experiments have resulted in the discovery of a new force, of a nature similar to electricity, and possessing its efficiency, without being subject to many of the influences which affect the latter. A remarkable feature of this new force is that the earth has no effect upon it as a conductor whatever. Wires operated can work perfectly on ground, or in any position. The current will not be interrupted by anything short of complete breakage of wires, instead of being influenced by every variation of the atmosphere or change in position.—*Newark Call.*

The Lightning-Rod Man's Little Joke.

The assurance of the lightning-rod man has always been looked upon as appalling in its dimensions. It was never better illustrated than the other day when one of them applied to the president of the South Side Railway Company and wanted to put lightning-rods on all his bob-tails.

"Lightning-rods on our cars?" asked the latter, "What in thunderation do we want them for?"

"Because they make such good conductors," replied the imperturbable lightning-rod man.

It took him right where the backbone leaves off.—*Boston Globe.*

What They Say.

I think the "OPER." is the pleasantest, liveliest, most sensible little paper ever published. Can't live without it any longer.

Yours truly,

MINNIE A. WILLIAMS

DOMESTIC NOTES.

The steamer Professor Morse is about to leave this port to repair the Herman cable.

It is said that the men at 197 Broadway have made applications to be furnished with easy chairs. We always told them that high living tended to the "gout."

The following message was started from the American Exchange office in this city one day last week: "Forward Jersey and Charlie." Ridgewood, N. J., rendered it "Forward horses and Charlie." The consequence was sixty-seven horses were shipped to New York. Now for the freight charges. Who's to pay?

The New York Central trains take care of themselves now by the use of Rousseau's automatic electrical signals. This block system of securing safety on the road promises to find a very general introduction here on lines desiring the maximum of security. In England the system is used in a very complicated manner, but without lookout towers at frequent intervals, where the movements of the trains are signalled by arms operated by wires attached to levers in the lookout station, from whence an agent is always surveying the road. This dependence on fallible humanity has led to frequent mishaps.

Henry H. Ward, treasurer of the Gold and Stock Telegraph Company, has been appointed cashier of the Western Union Telegraph Company, *vice* Leonard Cox.

PERSONAL.

Messrs. H. D. Carter, Watertown, N. Y., T. Ham-mill Prescott, Charlottetown, P. E. I., and Geo. G. Ware, of Springfield, Mass., have our thanks for favors.

Mr. Line, the Signal Service operator at Mount Washington, Maine, started to descend the mountain last Tuesday afternoon, and as nothing was seen of him up till Wednesday night it was feared that he was lost on the mountain during the severe storm. He reached the summit next morning, however, but in an exhausted condition, having passed the night in a deserted hut.

The following appointments have been made in the P. R. and P. T. Co., Philadelphia:

Mr. Frank Schaeffer superintendent's clerk, G. and N. Branch, *vice* W. W. Leeds, deceased.

Mr. J. H. Montgomery, manager, 900 Green Street, *vice* Schaeffer, promoted.

Mr. Ramsey appointed night operator Despatchers' Office, G. and N. Branch, *vice* Montgomery promoted.

C. Arthur Scheffer, Jr., arrived in Corning, N. Y., November 13th, 1875. *Weight six pounds.* The happy parents have our 73.

Mr. L. C. Mann, operator L. V. R. R., has moved from Mauch Chunk to Neshanic, N. J.

S. Hutchinson is manager of the the Mont. T. Co., Southampton, Ont.

L. A. Laughlin has moved from Kewaunee, Wis., to Princeton, Ill.

E. F. Scholl and Howard Brown are the operators at Topton, Pa.

James Murray is manager of the G. W. R. office Sarnia, Ont.

W. R. Woolf is with the Western Union at Mobile, Ala.

C. H. Hill is manager Mont. Tel. Co., Woodstock, Ont.

C. W. Purcell is manager Eastern R. R. office Saco, Me.

M. F. Sheaban is the W. U. operator at Lombard, Ill.

J. Galbraith is manager M. T. Co., Lindsay, Ont.

R. D. Darlington is manager at Temple, Pa.

John Patterson officiates at Midland, Ont.

W. H. Shautz is manager at Blandon, Pa.

T. W. Moyer is operator at Emaus, Pa.

A. P. Gage is at Charlestown, Mass.

P. H. Kent is operator at Barrie, Ont.

A. A. Buckwalter is at Lyons, Pa.

An Enterprising Newspaper.

The *Illustrated Weekly*, an advertisement of which appears on another page, has achieved a success which is truly wonderful. The paper has only been in existence a little over a year, and yet its regular yearly subscribers number 60,000, and are increasing at the rate of a thousand a week. The secret of the success lies in the fact that no expense is spared to make it a paper of genuine merit in every department; while the oil picture presented to each subscriber is decidedly the handsomest and best offered by any paper. We have seen these pictures, and can testify to their beauty and value. Don't fail to send for specimen copies and terms to agents.

The length of deep-sea cable laid in the world is 70,000 miles. The world's telegraphic lines extend over 400,000 miles, and there are 160,000 miles of railroad.

In New South Wales they send messages 4,000 miles for fifty cents; and in Victoria the Government operated the telegraph last year at a profit of \$200,000. There are 5,600 miles of wire in the latter province.

BIRTHS.

On Saturday, November 20th, to Frank Schaeffer, operator, 900 Green Street, Philadelphia, a boy. For further particulars inquire of the father.

November 20th, at Ravenswood, L. I., a daughter, to Manager F. A. Cloudman, formerly of Fulton Market, N. Y.

MARRIAGES.

HAGATY—McMANEMY.—On Thursday, Nov. 18th, '75, at St. Peter's church, by Rev. W. R. Tillinghast, Miss Eva McManemy, of Detroit, to Mr. Loren Hagaty, operator, of Owosso.

DEATHS.

NOVEMBER 13th, 1875, after a very short illness, Mr. Chas. A. Doty, aged 32 years. The deceased was very well known among telegraphers, having been connected with the Western Union Telegraph Company, M. S. Roberts' department, in this city, for about fourteen years. He was a good and true friend, and a great favorite among his associates. We understand that Mr. Doty was to have been married in February.

NOVEMBER 19th, 1875, of consumption, J. J. Ahearn, enveloping clerk on the night force of the Western Union main office, aged 18 years and 9 months.

Send for Catalogue and Price List.

WATTS & COMPANY,

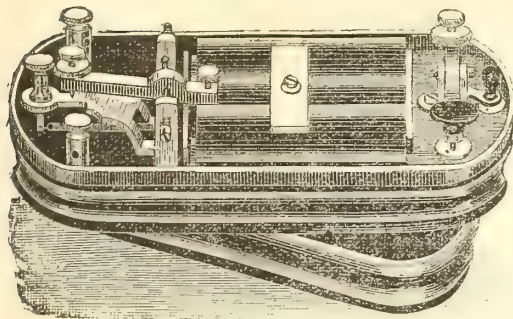
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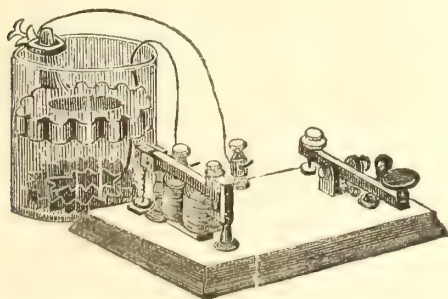
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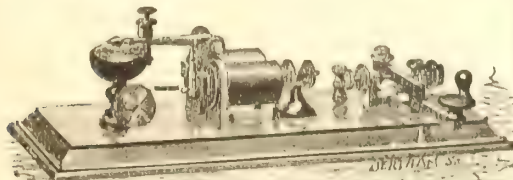
We invite special attention to our Pocket Relay, an improve-
ment on any in use, same size as the Canton Instrument, but
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A full sized Morse Sounder and Key, finished in fine style,
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Our latest improvement, "The Challenge, or Stammer Sound-
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of trains, blowing of whistles, etc., make reading by sound
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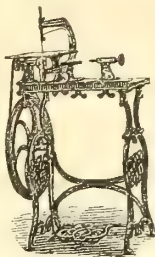
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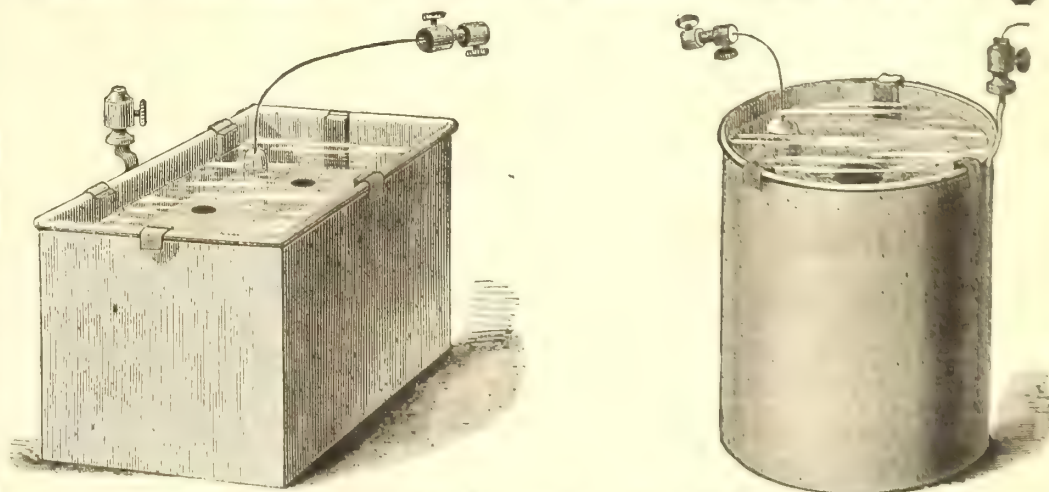
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For open circuits, the Eagles Metallic Battery has been found to be a perfect success. The BATTERY WORKS have been
several telegraph lines, and has proved especially adapted for Electric Railroad Signaling, Battery, Audible, Warning, Braking,
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PASADENA, CALIF., N. Y., APRIL 12, 1884

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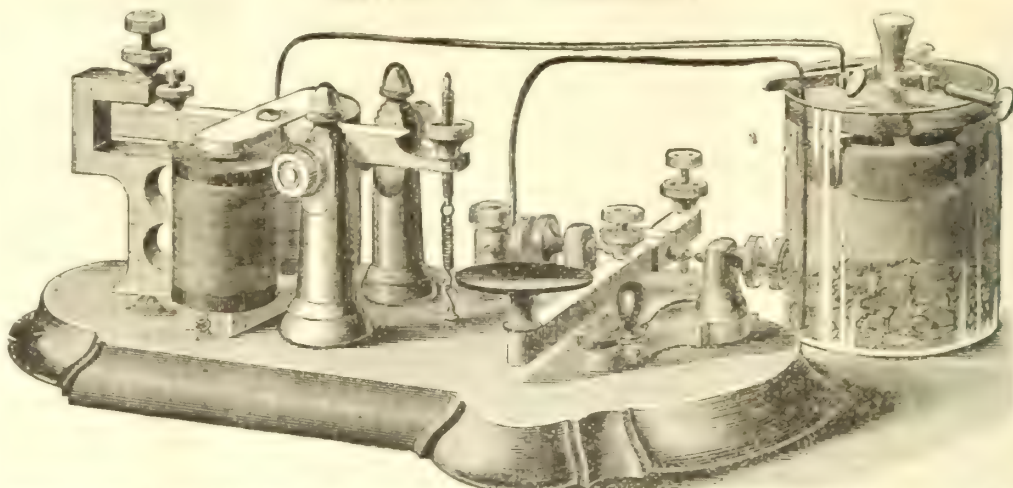
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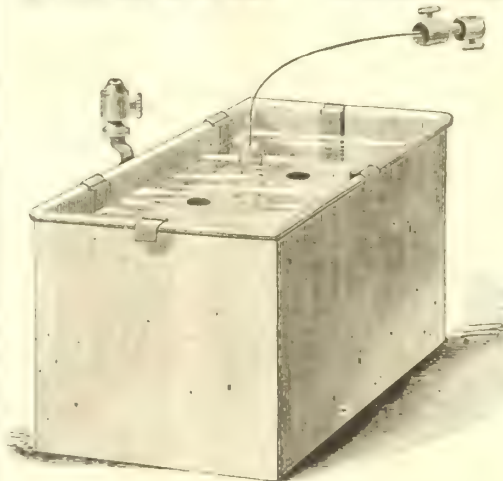
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THE OPERATOR.

The Telegraph Operators' Journal.

VOL IV.

NEW YORK, DECEMBER 15, 1875.

No. 8

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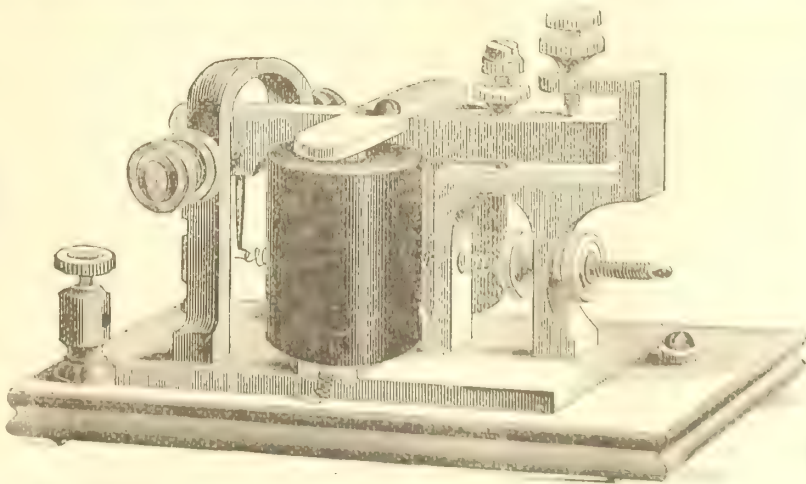
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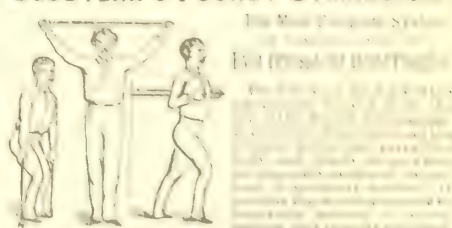
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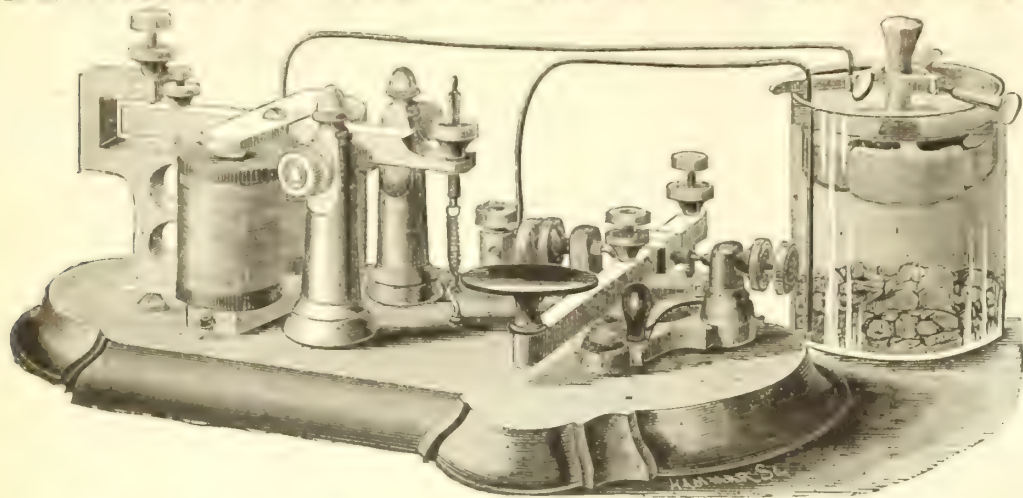


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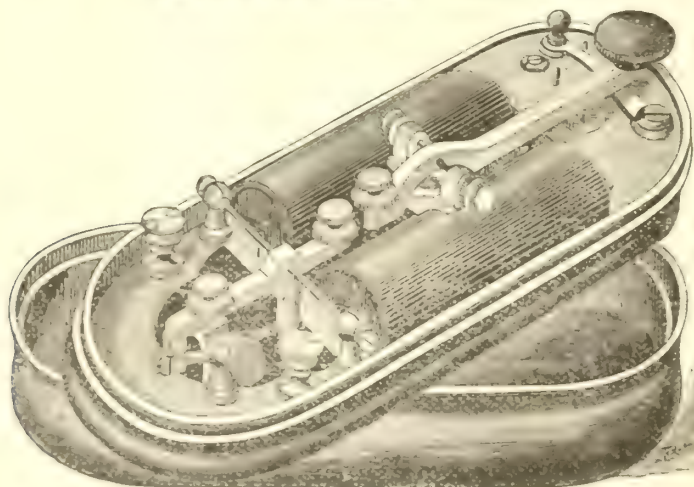
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THE OPERATOR,

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SCIENTIFIC TELEGRAPHY.

The Publishers, in announcing the Fourth Volume of *THE OPERATOR*, which commences with the number for Sept. 1st. 1875, desire to return thanks for the liberal support which it has hitherto received, which it is expected and believed will be continued during the ensuing year.

All the popular and valuable features of the paper will be retained, and it will continue, as heretofore, to labor for the best interests of the Telegraphic Fraternity, and the advancement of Electrical Science and the Telegraphic Art.

As heretofore, no labor, time, or expense, warranted by the patronage received, will be spared to improve its character and add to its interest, and to sustain its reputation as the only first-class Electrical and Telegraphic Journal upon the American Continent.

SCIENTIFIC NOTES.

Edison's Discovery of a Supposed New Force.

MR. EDISON, whose name promises to become famous as the discoverer of a new natural force, was at his laboratory in Newark last evening, attended by his assistants and surrounded by a little company of interested persons, among whom were several expert electricians and a representative of the *Herald*. Mr. Edison is a young man, of about the medium height, with full oval face, a large head, and a manner that bespeaks the utmost devotion to his business. He was formerly a telegraph operator in the employ of the Western Union Company, and, during the war, was engaged in the Associated Press operating-room, serving with excellent skill and fidelity. Possessed of natural inventive genius, he began to turn his attention to the betterment of the telegraphic instruments then in use, and succeeded in making a number of additions and improvements with such pecuniary benefit to himself that he was enabled to abandon the laborious occupation of an operator, and devote his time to the study of electric science. His most important invention up to this time is that of the quadruplex system, by which four messages can be transmitted simultaneously through a single wire. It was while engaged in his occupation of experimenting that he made the discovery of what he is pleased to term, without much appropriateness, 'etheric' force.

This force or principle is the direct offspring of electricity and magnetism. The operation of an ordinary telegraphic circuit affords the simplest means of deriving it, and it is by this method that the present experiments are being conducted. When the circuit is open or broken, the electricity stored in the magnetic coil by the operation of a continuous current is withdrawn artificially, and it is in this manner of relieving the magnet that the invention consists. Hitherto the power stored in the magnet has been permitted to dissipate itself unnoticed in the air, in ignorance of the fact that it has assumed a new nature, and possessed properties more valuable than those of electricity itself. Edison noticed that the accidental contact of a wire with the core of the magnet caused the production of a peculiar bright spark when a metallic substance was applied to it. Though this manifestation has been frequently observed, he was led to investigate it to its origin, and was amazed to find that the new manifestation failed to respond to the tests applied to discover the presence of electricity, either inductive or static. The galvanometer was unmoved by it, the dainty gold leaf of the electroscope exhibited no signs of deflection; the tongue could detect no sensation; the Leyden jar charged with it was possessed of no property that is contributed to it by electric contact. In a word, the manifestation was non-electric. It was the display, recognized for the first time, of a principle until then buried in the depths of human ignorance.

Since the moment of this discovery Mr. Edison has worked night and day to ascertain more intimately the nature of the new 'etheric' principle, and with results which are strongly confirmatory of his original theory. A voltaic battery, of several cells, is applied to an ordinary telegraph instrument. The trial of twenty-eight different metals having shown that cadmium is best adapted for the transmission of the new power, a bar of that substance (analogous in its nature to zinc) is placed across or near to the magnetic coil, either directly or with an insulating substance intervening, and from this bar a copper wire conducts the 'etheric' force to any desired point. Connected with the gas pipe, it charges every gas fixture in the building, so that the application of metallic substance to any one of them will produce the etheric spark. A connection with the street main enabled Mr. Edison to draw the sparks from a gas fixture in his residence, some distance away. Hence, it seems that the new force is not affected by the contact of the earth, but performs its operations independent of the necessity of insulation. Herein lies its immense practical value. The cumbersome appliances of transmitting ordinary electricity, such as telegraph poles, insulating knobs, cable sheathings, and so on, may be

left out of the problem of quick and cheap telegraphic transmission, and a great saving of time and labor accomplished. Ocean cables operated by 'etheric' force need cost but a fraction of the present clumsy lines. Wires may be laid in the earth or in the water. The existing methods and mechanisms may be completely revolutionized. The experiments witnessed by the *Herald* representative were of an exceedingly interesting nature. Attaching the wire upon which the etheric current is conducted to a gas fixture in the large laboratory, it was found that the peculiar sparks could be obtained from every other gas fixture in the building simultaneously by the application of a file, knife-blade, or other metallic substance. A confusing and inexplicable experiment was as follows: The current was transmitted through the gas pipes, and the experimenter proceeded to a distant burner and drew brilliant sparks by applying his knife-blade. Three feet from this burner was another burner, at which a second person was stationed with instructions to grasp it firmly, which was no sooner done than the sparks at burner No. 1 became so feeble as to be almost imperceptible. When the grasp on burner No. 2 was released the sparks were evolved from No. 1 with renewed brilliancy. Water was then placed upon the floor and a piece of iron laid in the wet spot and connected with burner No. 2 by means of a copper wire, thus furnishing ample opportunity of escape had the current been an electric one. But the brilliancy of the sparks at No. 1 was found to be unaffected by this test. The person who first grasped burner No. 2 was then made to resume his grasp, standing on the wet spot, but the former effect of diminishing the force of the spark at No. 1 was now imperceptible. Standing upon the dry floor his grasp of burner No. 2 was fatal to the manifestations at No. 1, but when the floor was moistened the interruptive effect ceased. Still another experiment consisted in grasping the gas pipe into which the etheric current was being led, the person grasping it being made to hold a knife in his other hand. Upon touching a file to the knife-blade sparks were freely drawn, showing that the human body is a good conductor of the dew force. No peculiar sensation was observed by the person through whom the current passed. When the writer left the laboratory, Mr. Edison had just brought the microscope to bear upon the etheric sparks, magnifying them several thousand areas.

It has been suggested that this discovery throws new light upon the nature of the auroral phenomena. Telegraph operators are familiar with the difference between the effect of the electricity developed by a thunder storm, and that which affects the wires previous to an auroral display. The former passes through the wire, emitting both spark and sound; it is instantaneous in action, seldom traveling far on the wire before discharging itself. But the electricity produced by the aurora passes along the wire in a continuous stream, with no sudden discharge, effecting the same result as that produced by the galvanic battery. A colored mark upon the paper is made by the positive current of the aurora as by the positive pole of the battery. When these effects have been observed the aurora follows, and so familiar have the operators become with the manifestations, that they can predict an auroral display with absolute certainty. They regard the electricity which precedes its appearance as of precisely the same nature as that of the electro-galvanic battery, which is distinguished by its voluminous current without intensity of action, differing from ordinary atmospheric electricity or the kind produced by friction, which may be dissipated by means of a wire conductor leading to the ground. Now, it is an old theory that the cause of auroral displays is the accumulation of quantities of electricity in the earth (which may be regarded as a vast magnet) and by the liberation of this electricity, which is dissipated in the form of a magnificent display of light. But this is precisely the mechanism by which the etheric spark is produced. The core of the magnet corresponds to the magnetic pole of the earth; the cadmium and wire act in correspondence to the peculiar conditions of the atmosphere under which the earth's electricity is liberated; the galvanic battery and electric current are analogous to the vast currents of the electric fluid which encircle and pervade the earth; the auroral flame is kindred to the etheric spark. In short, the newly discovered manifestation, producing no effect but light, is believed to be a miniature of that grand and mysterious illumination which has excited the admiration and wonder of men for so many centuries.

Mr. Edison is constructing a quantity of special apparatus for the purpose of experimenting with the new force. Gutta-serena rods will be suspended so that the instruments may be more thoroughly insulated and all possibility of electric induction prevented; an 'etherioscope' will be contrived by means of graphite points, so that the etheric sparks may be more advantageously studied, and a spectroscopic analysis will be made of the spark in order to ascertain the affinity of the light with that of the auroral display. The discoverer will labor untiringly to develop the etheric manifestations until he succeeds in putting them into more tangible shapes, and evolve a force which shall be as docile and adaptable to the uses of man as those faithful drudges—steam, heat, and electricity.

Mr. Edison's theory of 'etheric' energy is as follows: Under certain conditions heat energy can be transmitted into electric energy, and that again, under certain conditions, into magnetic energy; this back again into electric energy, all forms of energy being interchangeable with each other. It

follows that if electric energy under certain conditions is transformed into that of magnetism, under other conditions it might be transformed into an entirely unknown force, subject to laws different from those of heat, light, electricity, or magnetism. There is every reason to suppose that etheric energy is this new form. The only manifestation of its presence previously recorded with scientific accuracy is that of the German chemist Ruchenbach, who noticed that an electro-magnet, under certain conditions and placed in a dark room, became luminous when the hands of peculiarly constituted persons were made to approach the poles. This phenomenon, inexplicable to Ruchenbach, is easily to be accounted for on the etheric theory."—*New York Herald* Dec. 2d.

In its editorial columns the *Herald* adds:

MR. EDISON'S DISCOVERY.

"In another column will be found an account of a new discovery in natural science recently made in the experiments of an electrician. This gentleman observed that the spark which arises from the contact of two pieces of metal when one is in contact with the core of a battery was apparently the product of some force other than electricity, and upon the application of tests was able to prove that the principle whose existence and operation were thus demonstrated by the electrical apparatus was not electricity, but was some hitherto unknown and undescribed force. From what he has thus far learned of the nature and manifestations of the new principle, he is led to compare its operation to that operation of nature which produces the aurora, and venture the theory that he has detected the principle upon which that grand pageant of nature depends. The practical results of the discovery, as now contemplated, have regard to telegraphic manipulation, and the discovery seems to promise greatly increased facility for the transmission of signals. All that the world has learned in the short life of modern science indicates that we are only at the threshold of the great secrets of nature that are yet to be opened to us, and every step we take in this direction counts toward the grand result of the victory of man over the obstacles of matter and space and time."

Dr. John Cowen, of New York, writing to the *Star*, says: "I read in the *Star* the new discovery made by Mr. T. A. Edison, of Newark. He has touched the outer limits of one of the grandest discoveries of modern times. I think I can place him, or any other electrician who will observe the following rules, on the right track: Use for the ends of the battery wires, balls of glass one inch in diameter with the insertion of the wire to the center of the ball. The balls must be exactly one inch in diameter—no more, no less. Next, place in a suitable frame a sheet of ordinary white paper one inch from the glass ball on the positive pole. Now transmit the message in any of the usual ways, operating by a key from the negative pole, and it will be received by the glass ball on the positive pole, and the message transmitted to the paper placed one inch before it. No conductor of any nature is required, and in no way will the new force be affected by distance. By the use of this discovery messages can be sent to and from the uttermost end of the earth in a moment of time, the only expense being for battery and glass ball points.

Mr. Edison errs in believing the new force has actual power. He is right in supposing it has 'positive registering mechanical power,' and also in its being non-polar.

Mr. Edison is on the boundaries of a new law. I do not see the only method by which that law can be used intelligently. I have not applied for a patent—do not intend to. Its simplicity, its cheapness, its availability, should make its use general, and it ought not to be controlled by any corporation.

Concerning the possibilities resulting from the application of the discovery, much might be said, but there are the facts, and what more is needed? JOHN COWEN, M. D.

New York, Dec. 1, 1875.

A New Form of Leclanche's Cell.

A new form of Leclanche's cell has been constructed by Dr. Muirhead, in which the carbon and black oxide of manganese are packed in the same case around a glazed porcelain jar perforated with holes about 1/4 inch in diameter, the jar containing a zinc plate bent into the form of a cylinder.

The advantages claimed are that a much larger surface of zinc is exposed, and the perforations of the jar are in no danger of being choked up by deposition of chloride of zinc.

"HEALTHY body, healthy appetite, healthy feelings, though accompanied with superficial ailments, unadorned with wit and imagination, and regulated by learning and science, will ensure the highest happiness and splendid irregularities of genius, and the most dazzling success of ambition."—*Imperial Memoirs of George IV.*

A New Theory of the Nebulae.

M. Plante has recently communicated to the French Academy of Sciences the results of some experiments which may lead, it is believed, to a new theory for the circumstances to which are due the spiral forms of so many of the nebulae. The experiments consist in the exact reproduction of these forms by the combined action of electricity and magnetism. Two copper electrodes of a battery of 15 elements, being plunged in water acidulated to 1-10 with sulphuric acid, the end of the positive electrode is brought to one pole of the magnet. The cloud of metallic matter carried from the electrode by the current at once assumes in the liquid a gyratory spiral movement, of which the general disposition strongly recalls that of the nebulae. The investigator is proceeding with further experiments in the light of this idea.

Silvering Glass.

A correspondent of the *Scientific American* says:

"Having had occasion to silver some small plates of glass, I tried several formulas. In some I found the silver solution so weak that it required repeated applications to give an opaque deposit. In others, the silver was so strong that there appeared to be a waste. After trying several modifications I found that the following works very finely, giving a heavy deposit by a single application:

No. 1. Reducing solution: In 12 ozs. of water dissolve 12 grains Rochelle salts, and boil. Add, while boiling, 16 grains nitrate of silver dissolved in 1 oz. water, and continue the boiling for 10 minutes more, then add water to make 12 ozs.

No. 2. Silvering solution: Dissolve 1 oz. nitrate of silver in 10 ozs. water; then add *liquor ammoniac* until the brown precipitate is nearly but not quite all dissolved; then add 1 oz. alcohol and sufficient water to make 12 ozs.

To silver: Take equal parts of Nos. 1 and 2, mix thoroughly, and lay the glass, face down, on the top of the mixture while wet, after it has been carefully cleansed with soda and well rinsed with clean water.

Distilled water should be used for making the solutions. About 2 drachms of each will silver a plate 2 inches square. The dish in which the silvering is done should be only a little larger than the plate. The solution should stand and settle two or three days before being used, and will keep good a long time.

Edison's Autographic Press.

Thos. A Edison, by way of a leisurely diversion, has invented and brought into practical use a most ingenious and valuable apparatus for the purpose of ordinary office lithography.

It consists of an electrical pen, a battery to operate the same, and a press for printing the impression. The whole is termed "The Autographic Press." Autographic because the printed impressions are exact reproductions of the manuscript of the writer. The *modus operandi* of this novelty in office-furniture is as follows; The electrical pen consists of a hollow tube about four inches long, containing a small rod holding at its point an ordinary sewing needle. This needle is made to protrude and withdraw from the point of the tube by means of a minute electric motor or engine at the top of the holder, upon the shaft of which is a cam connecting the rod holding the needle. Thus at each revolution of the shaft the needle is obtruded from the point three times or 3,000 times per minute; the shaft making 1,000 revolutions. A small battery of two cells and of a novel and serviceable pattern has been devised for the purpose of operating this little engine. To write with this pen a sheet of foolscap paper is placed

upon a soft pine board or hard blotting pad, and the pen passed over the surface of the paper as in writing with an ordinary pen or pencil. The result, however, is different, for instead of having a line of color, we have a multitude of very minute holes, very like pin-holes. Thus the manuscript becomes simply a stencil-plate, and is then ready for the press, which consists of a bed-plate and an open-hinged frame for holding the stencil plate in one position. A sheet of paper being placed upon the bed of the press, the frame is closed upon it, and an ink roller passed several times over the surface, thus causing the ink to fill in the holes and make an impression upon the surface of the paper. Beneath this printed impression, upon examination will be found to be composed of small dots, but so close together as to practically form lines as if written with ink. After the "proof" the impressions are made with but two or three passages of the roller, and can be made at the rate of five to seven per minute, and as many as 500 from one manuscript. The whole cost of this novel and useful invention is but \$30, which low price, with its effective operation, is fast popularizing it.

For the first time a complete electrical light apparatus has been fitted to the British war steamer *Minotaur*, to be used for signalling and detecting torpedoes.

THE telegraphic journal of London describes an invention by which wood is sawed by a platina wire heated by electricity. It cut the hardest wood with inconceivable ease.

Improved Autographic Telegraphic Instrument

John C. Ludwig, of San Francisco, Cal., has recently patented an invention which relates to a new telegraphic instrument belonging to the autographic or *fac simile* class, and designed to produce a record in the same handwriting as the original written message. The invention consists in an oscillating traverser, vibrating in unison with a similar traverser, at another station, which first traverser makes the circuit through the conducting lines of writing upon a slip of paper, and the second traverser effects the record by puncturing the paper through the instrumentality of a spark from an induction coil, so that the message is recorded in *fac simile* by a series of little holes or punctures. Another important feature of the invention is the method of preparing the paper upon which the message is written, and it consists in treating it with a mixture of ferrocyanide of potassium and coal oil, which renders the paper non-conducting.

Joking by Telegraph.

Miss Sarah Ward, aged about 28 years, daughter of Judge Ward of St. Paul Avenue, Tompkinsville, Staten Island, visited a New York dentist on Monday last and had some teeth extracted, taking laughing-gas. Then she decided to have some fun with the folks at home by telegraphing to the Rev. A. N. Stanley, rector of St. Paul's Church, that she was dead. She accordingly sent a dispatch to the rector, who was preaching at the time in observance of St. Andrew's Day, that she had died from the effects of inhaling laughing-gas. The startling announcement created excitement among the congregation, the young lady being well known to them all. The services were at once concluded, and word was sent to her father, who hastened to the dentist's place of business. There he was surprised as well as overjoyed to ascertain that his daughter had but a short time previously started for home in excellent health. When asked by her parents what induced her to send such a dispatch, she said that she did it for fun.

FOREIGN NOTES.

A RAT IN THE TELEGRAPH SERVICE.—A telegraph inspector in England recently pressed into his service a rat under the following peculiar circumstances: It was necessary to overhaul a cable of wire inclosed in iron tubes. A certain length of the had to be taken out of the tube, and the men commenced hauling at one end without having taken the precaution to attach to the other a wire by which it might be drawn back into the tube after inspection and repairs. The question arose how the cable was to be restored to its proper place; and here the ingenuity of the inspector was manifested. He invoked the aid of a rat-catcher, and, provided with a large rat, a ferret, and a ball of string wound on a Morse paper drum, he repaired to the opening in the tube. The "flush boxes" were opened and the rat, with one end of the string attached to his body, was put into the pipe. He scampered away at a racing pace, dragging the twine with him until he reached the middle of the length of the pipe, and there stopped. The ferret was then put in, and off went the rat again until he sprang clear out of the next flush-box. One length of the cable was thus safe, and the same operation was commenced with the other; but the rat stopped short a few yards in the pipe and boldly awaited the approach of the ferret. A sharp combat here commenced, and it was feared that one or both the animals would die in the pipe. But after sundry violent jerks had been given to the string, the combatants separated; the ferret returned to his master, and the rat, making for the other extremity of the pipe, carried the string right through, and so relieved the inspector from his anxiety.—*Popular Science Monthly*.

THE electric telegraph system is still in its infancy, and although its operations are marvelous, yet it is probable that we are at present but imperfectly acquainted with the full extent of its advantages.

In this country the telegraph wires are simply used for the transmission of messages, but to Armenia belongs the honor of discovering that they may be adapted as clothes-lines for laundry purposes. The practice of hanging linen to dry on the wires has lately become general in that country, and revealed the hitherto unknown fact that the Armenian peasantry are in the habit occasionally of washing their clothes. Much dismay has, however, been caused by an order that has been issued by the authorities forbidding the continuance of this arrangement.

It seems that the wires, on more occasions than one have been broken by awkward washwomen, and Shekhet Effendi, an Armenian Scudmore, who has just been appointed Director of the telegraph at Erzeroum, has solemnly declared no more shirts, stockings, or other garments shall be hung on the wires on any pretence whatever.—*Telegraphic Journal*.

HERR DELLBRUCK, in delivering the recent "Speech from the Throne," laid great stress on the necessity of placing the telegraph and postal service under one department. The German Parliament will be asked for the necessary funds to complete this arrangement without delay.

FIVE cables touch Canadian territory. Four of them land at North Sydney, and one at Tor Bay Nova Scotia.

SHOULD England and Russia ever get to fighting about the Central Asia boundary line, there will be some fearful polysyllabic names of localities to come over the wires, which will be murdered after the manner of the Servian and Herzegovinian nomenclature.

IN one of the recent terrible thunder storms in France, 596 sheep were killed out of a flock of 1,800 by one flash of lightning.

The Message in Chicago—Personals—Changes.

CHICAGO, Dec. 9, 1875.

TO THE EDITOR OF THE OPERATOR:

With your permission I will favor the many readers of your paper with Chicago news.

The W. U. main office, with its inmates, continues about the same in appearance from day to day, with the exception of an occasional visitor, who comes in well armed with the necessary documents of admission. Both entrances to the operating-room are well guarded with large placards conspicuously posted, and all others than employés are required to have a permit from the Division Superintendent.

Each day brings with it from two to four absentees, from sickness or indisposition. No recruits have been added to the ranks for some time, but, on the contrary, the recent dullness in business has threatened some of the extra men with decapitation, very few of them making full time now.

The immortal "Go" Gould continues in our midst, and is seemingly as happy as an oyster. Day before yesterday was one of unusual confusion and excitement, in consequence of the receipt and transmission of the President's Annual Message. It was received by Messrs. Meserve, Francis, Baker, McRobey, Stewart, and Lester. An ample and able force was provided, and it was promptly forwarded to the western cities, notwithstanding the heavy condition of the wires in consequence of the bad weather.

Mr. E. Payson Porter, of the renowned Porter's Telegraph College, has joined the ranks on the W. U. day force here. He copies business on the Sholes & Glidden type-writer, working stock yards No. 2 wire. He is an old veteran telegrapher, and his hair is fast turning gray. This makes the second or third gray and elderly telegrapher now employed in this office. What the fate of the plug institution is I have been unable to learn. No doubt it could be purchased at a low figure and on easy terms. We all hope it has died an easy death, and that no more poor innocents will be victimized out of their valuable time and money by it, or any other of its class, here at least. There are now employed in this office quite a number of ex-superintendents, managers, and chiefs. A "come down" like this, to toiling in the ranks, may seem hard and inconvenient, but such is life.

Our friend Johnny Kemp has done it at last. Did what? Got married, thus leaving his friends of single blessedness to their glory, and the married victims to share with him their sympathy. He returned from his wedding tour about two weeks since. He is looking remarkably well.

Ex-Superintendent Roger B. Pearson (of P. and A. régime) has received the appointment of manager of "Qn" branch office at No. 87 E. Madison Street, vice Charles Lithgow, "Q." Mr. P. runs this in connection with his position of Superintendent American District Telegraph Company.

Miss Ella Gately has been added to the Metropolitan force, and Mr. Bangs transferred to the W. U. force.

Mr. Everham, of the extra force here, who was subbing for Manager F. G. Brown, of South Bend, Ind., a few weeks ago, while Mr. B. was absent on his wedding tour, has returned.

Mr. Gus Carroll, who was also absent a week, subbing in the Davenport, Iowa, office, has returned.

Mr. Farquhar, ticket agent and operator at the C. and P. Railroad depot, corner Chicago Avenue and Lanabec Street, Chicago, has been transferred to Davis Junction, Ill., on same road. Mr. D. P. Carr, formerly operator on the C. and N. W. Railroad at Fulton, Ill., fills the place made vacant by Mr. Farquhar.

Mr. W. H. Mogg has been appointed agent and operator on the C. D. and V. Railroad at Milford, Ill., vice Mr. E. M. Davis, resigned to engage in other business in the same city.

Mr. Mereness has not returned from home since the death of his father. The operators continue to hold their relative positions, with the exception of Mr. Harris, on the L. S. and M. S. wire, and Miss Musgrove, on the Freeport and Dubuque No. 2 wire, have exchanged places.

Mr. Bloombhof, of the Springfield, Ill., wire, has been assigned to duty as extra relief, and Mr. Haake fills the position thus made vacant.

Mr. A. J. Long, who was absent three days on the sick list last week, is with us again.

Mr. L. H. Long has been appointed manager of the Northwestern Telegraph Company office at Green Bay, Wis., vice Mr. Latham, resigned to engage in other business.

Mr. I. G. Harrison has been appointed manager of the American District Telegraph office at 527 State Street, Chicago, vice Mr. A. Shillinglaw, resigned.

The weather lately has been very wet and disagreeable, this being the seventh day of rain, mud and gloominess. It is almost enough to make the most robust complain and seek relief for a supposed ailment. But we are in hopes of a change for the better soon.

Telegraphic Scraps.

CHAPTER ONCE.

How natural for a person who stumbles on the sidewalk to turn and look for the cause; how much more natural for some operators, when they have to break, to say "pounding," "band," etc. Some office must be located in a carpenter-shop or band-room.

If there's anything that will make a man drop, it is, after he has been fighting ckt for fifteen minutes and declaring he will have that circuit if he loses his situation, to hear the chief say that the wire is crossed.

What is the joy of a six-year-old boy over a new pair of red top-boots, compared with that of a student who is so far advanced that he can call up a neighboring office and say, "G. M., how's biz.?"

Oh, Plume! don't build castles in the air; don't imagine that you will in six months be a full-blown telegrapher, drawing a salary of one hundred dollars a month; you may, at the end of a year's time, find yourself working nights in some switch station two miles in the country, reporting trains at the enormous salary of thirty dollars per month.

When you see an operator's face all smiles, and hearing him say, as you go by his desk, "Bye-bye, 73," you may bet your bottom dollar there's a lady operator on that wire somewhere.

Wiggins, a new arrival, wished to find a good boarding-place; he was directed to Mrs. Smith's, a well known "hashery." Arriving at the house, after giving the door bell a few rings, a middle-aged lady puts in an appearance.

"Mrs. Smith, I believe," says Wiggins, with a smile.

"Yes, sir."

"Ahem, I called to see if I could get a comfortable room here, with board, for a few months."

"Yes, sir, I think so; what's the name, please?"

"My name is Wiggins; I am a telegrapher; I am working."

"A what?" says she, making for the broomstick. "A telegrapher? Then you put yourself outside of that gate soon as possible. I have had three of them here within two months, and all went away without paying me a cent; and all I have left me as security is a paper collar and two pairs of socks."

Wiggins, thinking that self preservation is the first law of nature, makes for the gate, just in time to meet a bulldog connected with the premises.

The tailor says his clothes can be mended, but the doctor thinks it will be sometime before he can sit down with any kind of comfort. Meanwhile, Wiggins has taken quarters at the hotel, not desiring to interview another landlady.

"Say, Charley, anything new in the way of 'bulls'?"

"Yes, here's a few. Those folks down there have been 'chewing' up messages a little—Stan Hoesen was how the lady had it, but she meant Van Hoesen."

"Thos. Alcott Ador Hil was supposed to belong to Thos. Olcott, Arbor Hill."

"U. S. Review for 'its' review is good. He don't do it that way often, though."

It was hoped your readers would not be again bored with our heater troubles, and they would not only for an interview with the "heater man." Yes, we have been interviewed by that man and his tongs, and the result is we are quite willing to admit that the eels have come up and caulked up the leaks in our much abused heater, and all is working nicely now. X Y Z.

Albany, N. Y.

The Detroit Day Force—Changes—Another Heavy Weight.

DETROIT, MICH., December, 1875.

TO THE EDITOR OF THE OPERATOR:

There have been some changes here since our last letter. Sullivan, for some time night-report man, has left, and is now in Wyoming Territory. Glover and Watts, of the day force, left early in spring. They are both in California. The force during this last summer was larger than on any previous year. Two sets of quad were put in, but only one side of each used here, C. H. and Bu. using the other side. They have adopted a new plan here this winter for economizing. They select two victims at a time from among the latest arrivals, and lay them off for a month each. It is apparently giving satisfaction.

We have a child here that can discount the Philadelphia heavy weight. His weight is something less than a narrow-gauge locomotive.

The day force, when all are here, is as follows: Wa Jackson, "J," chief; Smith, "Hy," assistant chief; Mills, "Ms," and Thompson, "G," on C. H. quad. "G." also takes day report. Kendall, "K," Bu quad; Clegg, "Cg," Bay City; Littlefield, "Ra," Cincinnati and Toledo; Singleton, "Si," Cleveland, and Mathews, "M," Jackson and Kalamazoo wire. Five ladies grace (look out how you print that, I'm soliciting subscriptions,) the office. Mrs. Towars, "T," Grand Rapids, Haven, etc.; Miss Hovey, "N," the Saginaws; Miss Driscoll, "Ju," the river wire; Miss C. Edwards, "Ce," a southern wire, and Miss A. Edwards, "Ac," Lansing.

The Montreal company have three men, Powers, "P," Elliott, "O," and Gillespie, "J."

The night force is too numerous to tackle at present; will take them up another time.

A genuine bull is a curiosity in this office. A good attempt at one was made about a year ago. One of the boys got hold of a "fine gerser," leaned back and turned out in his usual unapproachable style, "Avery hovey & cape north of ———— you."

A VENERABLE Irish lady in Taunton, Mass., went into the telegraph office the other evening, and stated her wish to send a message to her son in a neighboring city. Whereupon the officiating operator asked if he should write it for her, to which she fruitfully responded, "Ay ye please, Mister, I'll do it myself, for James knows my handwriting."

The Operator,

A Journal of Telegraphic Literature,

PUBLISHED BY

WILLIAMS & JOHNSTON.

Volume IV.

Whole No. 45.

NEW YORK, DECEMBER 15, 1875.

TO OPERATORS.

THE OPERATOR has now the largest circulation of any telegraphic paper published in the United States; but as we are desirous of further increasing it, we offer as an additional inducement to subscribers fifty handsome visiting or addressed cards to each new subscriber for the year. The same offer applies to renewals and clubs. The cost of these cards would nearly equal the price of a year's subscription if ordered separately. Subscriptions should in all cases be accompanied by the cash or a Post Office order.

In addition to the above we offer the following prizes for clubs:

For a club of six yearly subscribers we will send one copy free for one year.

For a club of eight yearly subscribers we will give a first-class Morse Key.

For a club of twelve yearly subscribers we will give a first-class Morse Key, Western Union pattern.

For a club of fifteen yearly subscribers we will give a first-class Giant Sounder, or a Learners' set.

For a club of twenty-five yearly subscribers we will give a first-class Morse Key, Giant Sounder, and one year's subscription to THE OPERATOR to the person sending the club.

For a club of forty yearly subscribers we will give a good substantial American Silver Watch.

SEND the names as fast as received, and we will give you credit. They can be added to at any time.

NOTICE.

We are reorganizing our agency system, and would be happy to receive the names of any of the fraternity throughout the country willing to act for us.

WHEN requesting a change of address, subscribers will please give their former as well as their present address.

WE always stop THE OPERATOR at the expiration of the year, or of the time for which it is said; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

To our correspondents we would say, please try and have your letters in our hands at least five days before publication day; less time than this crowds us too much, and we are anxious to give each person a fair chance to see the products of his pen in our columns.

WHENEVER an operator sees anything in his local paper which he thinks would be interesting to the readers of THE OPERATOR, he will confer a great favor by marking the piece and mailing it to us, P. O. Box 3,332, New York.

CONSIDERABLE matter is unavoidably held over for want of space, and will appear as soon as possible. We are gratified to find that our readers are taking so much interest in THE OPERATOR. And yet why should they not? Is it not pre-eminently the telegraph operator's paper? We are always happy to hear from such of our readers in any part of the country as can make it convenient to favor us with an occasional letter, giving the telegraphic news and gossip, changes, etc., in his neighborhood. Have letters in our hands as early as possible, so that we can properly read and classify them; and be brief and to the point. A great many complain that they never see anything from their vicinity. Let them send us a letter themselves now and then.

THE REDUCTION OF SALARIES.

Quite a commotion was occasioned among the employes of the Western Union Telegraph Company last week, in consequence of an announcement in the *World* of December 7th that a general reduction of salaries was to be made. Copies of the paper were anxiously sought after, and great interest manifested to learn full particulars.

The scale of reduction was fully settled upon at the regular quarterly meeting of the General Committee held next day, and is as follows:

On salaries not exceeding \$600 per annum, no reduction.

Over \$600, and not exceeding \$1,200, 5 per cent.

" 1,200, " " 2,500, 10 "

" 2,500, " " 5,000, 15 "

" 5,000, " " 7,000, 20 "

" 7,000, " " 25 "

To say that the employes do not regard the reduction with favor, is a very mild way of putting it. The universal opinion on the subject is similar to that expressed by our Washington correspondent. They contend that a company whose net profits for the current half year amount to \$1,752,781.90, being \$94,451.48 in excess of the net profits for the same period of last year, is not consulting its own interests in forcing a general reduction of salaries not now by any means too high.

Indignation meetings have been called in several parts of the country to protest against what is considered an injustice. Whether these meetings will have any effect in having the order rescinded remains to be seen.

This is, we believe, the first general reduction that the Western Union has made, and, as the financial condition of the Company is just now so prosperous, it was quite unexpected.

Without a doubt, the Company will save considerable by the reduction. The aggregate salaries of the employes must amount to quite a sum. But the question arises, will not many of its best men be forced to seek employment in some other business, where a higher pecuniary value will be placed upon their labor. The Company will tell you that the supply of telegraphic labor is far in excess of the demand. And most undoubtedly it is. The average number of applications received at the New York office, from all parts of the country, is said to be about twenty a day.

Under these circumstances, what are the men to do? Nothing remains but to submit with the best grace they can. The prospects of engaging in other business are not now encouraging. Under no circumstances would we advocate a strike. Things are really not much worse—if, indeed, as bad—as in some other lines of business. While many large corporations have reduced salaries again and again since this unfortunate stagnation in business, the Western Union have not hitherto made any general reduction.

At the same time we earnestly hope the Committee will reconsider the matter, and put the salaries back to the old figure. Telegraphers are usually brilliant, intelligent men, and if the Company expects to have them do their work faithfully and well, it must pay them salaries upon which they can live. This starvation wages-policy is not economical in the long run—and we hope the Company will remember this in dealing with this important subject.

The Direct Cable again in Trouble.

Shakespeare says there's nothing in a name, but we sometimes imagine there is. Take, for instance, the direct cable. Is not die-wrecked a most appropriate name? The Anglo-American and it were fighting over the tariff-rates a few days ago, and could come to no amicable agreement. The next thing we hear is that the direct cable is broken about 136 knots east of Tor Bay, N. S., in from 50 to 70 fathoms of water, and in that portion of the cable that was laid in May, 1874, and remained perfect up to September 27, 1875. The company purpose sending out the Faraday from England at once to repair the damage.

It would appear that old Neptune has entered into a contract to cut this unfortunate cable at stated intervals, otherwise we can not account for its strange conduct. Would it not be well to keep the Faraday on this side of the Atlantic, to attend to these breaks?

Edison's "Ethereic" Force.

On another page will be found a long and very interesting article from the New York *Herald*, on the subject of the supposed discovery of a hitherto unknown natural force by T. A. Edison, of Newark, N. J., a gentleman well known to many of our readers.

Mr. Edison's discovery has occasioned quite a stir in scientific circles. As usual, public opinion is divided as to the practical benefit to be derived from it. Some believe that it is destined to revolutionize telegraphy, and what not, while others will take no stock in it whatever.

We hope he will succeed in properly harnessing the new force, and that it may prove to be one of the most important telegraphic discoveries of modern times.

WE are glad to learn that Mr. James D. Reid has been appointed Treasurer of the Gold and Stock Telegraph Company, to fill the vacancy caused by the promotion of Mr. Ward to be Cashier of the Western Union. Mr. Reid is well and favorably known to many of our readers, as he was Editor of the *Journal* for some years, and is in every way fitted for the position. We tender congratulations.

WE wish every one of our readers a very merry Christmas, and many happy returns.

THE circulation of THE OPERATOR is still rapidly increasing. Without any appeal to telegraphers to "support their organ," it has almost doubled within the last two months. And the cry is, still they come!

To Advertisers.

2,500 copies of this issue of THE OPERATOR go by mail to subscribers in every State and Territory in the Union, and also largely through Canada. We are the only telegraphic paper that has any circulation worth speaking of in the Dominion. THE OPERATOR has now a larger circulation than that of all the telegraph papers in America combined, if we except the Western Union official *Journal*, and its advantages as an advertising medium are therefore apparent.

The President's Message.

The President's Message was received in the Western Union main office on Tuesday, December 7th. It was sent from Washington over eighteen wires, and the time consumed in transmitting it was thirty minutes. The following notice on the Bulletin Board early in the A. M. attracted universal attention:

SOUTH.

THE PRESIDENT'S MESSAGE.

WIRES.	OPERATORS.	LETTERS.
No. 4.	Robert B. Lown	A.
No. 5.	Frederick W. Baldwin	B.
No. 7.	Frederick Catlin	C.
No. 8.	Thomas G. Kennedy	D.
No. 9.	George E. Hinman	E.
No. 11.	G. D. Merrill	F.
No. 16.	Irving S. Fitch	G.
No. 17.	S. S. Schroff	H.
No. 18.	Albert E. Sink	J.
No. 23.	Robert Morton	K.
No. 26.	L. R. Hallock	L.
No. 27.	D. W. McAneeny	M.
No. 41.	L. B. McCarthy	N.
No. 42.	W. J. Landy	O.
No. 48.	M. J. Landy	P.
No. 49.	D. Harmon, Jr.	Q.
No. 51.	E. A. Leslie	R.
No. 52.	James H. Largay	S.

Operators on this list will please report at 12 o'clock Tuesday, December 7th, prepared to take their respective wires as per this list, and to receive eight manifold copies of the President's Message.

A. S. DOWNER.

ON THE EAST.

The message was transmitted to Boston over eight wires in 59 minutes. It was sent on single wires by

Hoyt,
Robinson,
Lowery, and
Hableston.

And on the quadruplex by

Brant,
McEnroe,
Wood, and
Miller.

Time, 59 minutes. The message contained 13,000 words.

The Electric Knights of the Cue.

The much-talked-of Telegraphic Billiard Tournament is over, and the result has caused not a little surprise among those pretending to be versed in the doings of the sporting portion of the fraternity at "197."

An affair of this kind has been contemplated for some time, but not until quite recently could matters be properly shaped to bring it fully to the surface, and what has even now been accomplished is due solely to the energetic efforts of the few who took part in the affair and who, beyond a doubt, succeeded in making it one of the finest exhibitions of amateur skill ever seen in New York.

The matches, consisting of the French carom or three ball game of 75 points up, were played at "Cap." Reeves' rooms on Broadway, and lasted four days.

The first game opened at 3 P. M., on Wednesday, December 1st, between Sprague and Merrill, the former proving victorious by a score of 75 to 64. Merrill's beautiful run of 31 was the feature of this game, and would have stood to him but for Sprague's splashes of 26 and 23.

The next in order was a tight pull between Risdon and Horn, but "Ris" was too much for him by 9 points. Risdon's best run was 27. Horn's 24.

The third game was between Landy and Mitchell, and was rather one-sided, as Landy appeared to have it all his own way, and became an easy winner by 75 to 47. Landy's best run 28. "Mitch" claiming but 25 as his.

The fourth contest came off between Risdon and Sprague, and was certainly the hottest fight of the day, winding up with a score of 75 to 74 in favor of Risdon. This game rightly belonged to Sprague, but he lost it through a fatal miscue when the string showed a tie at 74.

The fifth and last game of the first day was easily won from Sprague by Mitchell, the score standing 75 for the winner, and 42 for the loser.

The second day was opened by Landy and Sprague, the former defeating the latter by 30 points.

After which came in order

Mitchell and Horn.	75 to 48.
Landy and Horn.	75 to 63.
Merrill and Horn.	75 to 45.

And the last game of the second day between Landy and Risdon, winding up with an easy victory for the former, showing a score of 75 to 41.

This game being the fourth won by Landy, pointed strongly to the fact that he would come out the champion, but was challenged by Mitchell, who had also won four games, and though two days of the tournament had already passed, it was plain to be seen that the most interesting part of the programme was yet to be given.

The third day was ushered in by a loosely contested affair between Merrill and Landy. Merrill taking 75, and allowing Landy but 41. This success appeared to encourage "Gib" for after defeating Landy, he gobbled Risdon bodily by a score of 75 to 40.

Sprague then polished Horn off with 75 to 49.

The fourteenth game of the series was a beautiful combat between Mitchell and Merrill, and we do not hesitate to say that it was the most skillful of the whole tournament. After several fine runs on both sides, Merrill laid down his arms to Mitchell, taking 72 out of the 75 as his share of the string.

The last game was between Mitchell and Risdon. "Mitch" adding another to his already long list of victories, giving "Ris" but 67 points.

The total number of games won and lost was as follows:

	Won.	Lost.
Landy.	4	1
Mitchell.	4	1
Merrill.	3	2
Risdon.	2	3
Sprague.	2	3
Horn.	0	5

Which proclaimed a tie between Landy and Mitchell.

On the fourth day but one game was played. The game that was to decide the winner of the first prize. When the situation became generally known, the place was thronged with telegraphers to witness the last chances of the experts, and they were rewarded with a pretty though rather uneven display of skill, wherein Landy proved himself the conquering hero of the hour by defeating Mitchell by 22 points, and carrying off the first prize in the shape of a purse of money, but Mitchell got the second, a smaller purse. Thus ended a display of expertness at the cue that the New York boys may well be proud of.

TELEGRAPHING EXTRAORDINARY.—Two Irish men were looking at people stretching a rope across the street from one house top to another, for the purpose of suspending a banner. Pat: "Shure and what will they be afther a doin' at the top of thim houses there?" Mick: "Faith an' it's a submarine telegraph thare're afther puttin' up, I suppose."

! [Written for THE OPERATOR.]

Working at the Centennial in 1876.

"Their's a divinity that shapes our ends,
Rough hew them as we may."

In this case it was a very substantial "divinity," in fact, a no less personage than our much-respected Superintendent. We wanted to work at Philadelphia during the Centennial. We couldn't sleep for two nights in consequence of the excitement produced by the happy thought that we would probably be one of the privileged number detailed to handle and, perhaps, "bull" the dispatches of dukes and duchesses, lords and ladies, kings and queens.

We couldn't sleep until we had seen the Superintendent. We slept after that. We even missed our breakfast next morning. The landlady smiled as we poked our heads into the dining-room just as the maid was removing the empty dishes from the breakfast-table. "Oh!" she exclaimed, "I am so sorry you overslept yourselves, we had quail for breakfast!" We politely informed her that we did not eat quail—that is, under the circumstances. We should be sorry, very sorry indeed, to rob her of that which would not enrich us, and leave her poor indeed.

But we are digressing. We went to see the Superintendent. He asked us who was on duty at B—. We told him "Johnny" was there until our return. We said we wanted him to consider us as applicants for the position of manager of the Philadelphia, Reading and Pottsville Telegraph Companies offices at the Centennial buildings in 1876. He replied that he would ask us two questions, to both of which if we answered, Yes, we could have the position.

What felicity! Were the expectations of mortal man ever raised to such a pitch as ours were that moment? Visions of kings and queens and all the aristocracy of civilized Europe pausing before our window and handing in their dispatches, politely requesting us to rush this one to Paris, that one to Hong Kong, the other to China, and so on, passed through our bewildered brain.

But we have changed our mind on this subject very materially since then. We would rather be a toad and live upon the vapors of a dungeon than work in the Centennial buildings next year.

The first question he asked us was if we knew the rates to Zanzibar, South Africa, and Lickschillet, Texas. This question stunned us. We had to answer in the negative, but thought we could answer any other question he might ask, relating strictly to the business, in the affirmative. He then leaned back in his chair, and scrutinized our physiognomy for about ten minutes. A vague feeling of unrest took possession of our senses. We wished we were ten thousand miles away—yes, more than ten, fourteen would not have been too far. The Superintendent was more than a match for us. In other words, we were utterly annihilated. He asked us if we were competent to converse with customers in English, German, Dutch, Pennsylvania Dutch, French, Flemish, Finnish, Outlandish, Spanish, Portuguese, Chinese, Japanese.

Here we interrupted him, and told him that we had changed our mind about working at the Centennial, we did not believe it would be much of an honor anyhow.

"Thus ever fade our fond dreams of bliss."

S. R. GRAPES.

A SUITABLE GIFT.—We know of no present more suitable for a holiday offering than a copy of Webster's Unabridged Dictionary. Besides furnishing a continuous and almost inexhaustible channel of valuable instruction, its illustrations will be found a capital means of amusement to the old as well as the young. It has long been regarded the standard work of orthography and pronunciation, and we have yet to learn of any business, trade, or profession which does not find full recognition among its hundreds of pages. To the minister, editor, professional gentleman and school, it is indispensable, and the time is almost at hand when it will be esteemed equally so in the home circle. *Frank Leslie's Illustrated Weekly.*

CORRESPONDENCE.

The President's Message in Philadelphia—How It was Received by the Rival Companies.

PHILADELPHIA, Dec. 9, 1875.

EDITOR OPERATOR:

The agony is over. That is to say, it is over so far as the Western Union is concerned, but the agony of the A. and P. has only commenced. Had you happened into the office of the A. and P. Co. in this city on Tuesday last you would have beheld a sight to appal the stoutest heart. Had you inquired the meaning of the assemblage of phumes, you would probably have been told that they were preparing to receive the President's Message from Washington. If you look through my eyes and tell me that you see—"a mass meeting of the supporters of automatic telegraphy," you would not be far wrong.

The two great rival companies made a test of the transmission of the message between Washington and Philadelphia. The A. and P., sent their best perforators to Washington from Baltimore, Philadelphia and New York, while in Philadelphia they engaged all the assistance they could beg, borrow, or buy in this city to copy it. Two men were loaned to them by the P. R. and P. Co., Messrs. Saxton (champion heavy weight) and H. M. Griffiths, from St. Elmo Hotel. Saxton was put to copying Morse from automatic paper, while Griffiths was put down at the Gold wire. Business was almost entirely suspended between Philadelphia and New York, with the exception of the Gold wire, and N. Y. biz was done over that wire in addition to the regular broker business. He went there expecting to see the message rushed, and, in the language of the lamented (?) "Ced," "Saw just as much as if he had staid at home."

I have secured the following items in regard to the race, which you can depend upon as being correct.

The A. and P. started to perforate at 12.55 P. M. and finished in about one hour and thirteen minutes, working three wires Morse, and one automatic, with, I think, eight perforators, six Morse, and two automatic operators, and about eighteen copyists.

The message was filed with the Western Union at 12.55 P. M. and started on eighteen wires as rapidly as copy could be distributed. The last word was sent at 1.30 P. M. the average time being a fraction less than thirty-one minutes, averaging twenty-three words per minute for each receiver, or eleven and a half words per minute for each person engaged in the transmission (sender and receiver), while the A. and P. averaged but a fraction over five words per minute for each person engaged its transmission—perforators, operators, and copyists.

The *Bulletin*, an A. and P. paper, claims, however, that their copy was for sale on the street nearly an hour ahead of the first issue of any paper which received copy over the Western Union wires. How this may be I am not prepared to state, but as there has been no denial of it by the opposition I suppose it must be so.

The narrow-minded system pursued by the A. and P. in relation to their borrowed and begged men on this occasion is very unfavorably commented upon here. They kept these men at their office from 10.30 A. M. until 2.45 P. M., and had not the liberality or, more properly speaking, justice to offer them luncheon or any refreshment whatever, although some of those engaged gave pretty broad hints at the conclusion of the work that such action would be appreciated, but it was not to be, so all hands went away hungry.

There are no changes to note here beyond the fact that a couple of the boys have been on the sick list. I understand one of the men who was loaned

to the A. and P. was compelled to subside next day into honorable retirement (and several doses of physic), by his arduous exertions on that occasion.

Can any of your numerous readers give me tidings of the whereabouts of G. B. Ramsey, an operator, who a year or so since started west from Bridgeport Pa.? His wife is very uneasy regarding his safety as she had not heard from him for several months. If any one can throw any light on his fate it will be a great relief to his wife and child, as any certainty is preferable to their present doubt and suspense.

Yours, truly, NICK O'TINE.

"X Y Z" and "Nick O'Tine"—The President's Message—What Albany Thinks of the Proposed Reduction of Salaries.

ALBANY, N. Y., Dec. 8, 1875.

EDITOR OPERATOR:

Your correspondent, "Nick O'Tine," of Philadelphia, having laid out "Micawber" to his (Nick's) satisfaction, seizes me for his next victim, and from the tone of his last letter I see it behooves me to rise and explain, which I will gladly do. He charges me with engrafting from his letters, especially the part relative to "duplex inventions," and requests me to run back two or three numbers of THE OPERATOR, where I will find my ideas fully expatiated on in his letter. Not having read his letters of late, I thought it strange that I should by chance get his ideas so perfectly, so I began to search. I went back five numbers, without finding a single word in his letters about "duplex inventions," but I find a five-line item in his letter published October 15th, which I suppose he has reference to.

I will admit that though there is scarcely any similarity, they are on the same subject, and if he has a copyright on the subject I wish to be forgiven, and would warn other correspondents to avoid this subject, or the old "Nick" will be after them.

Albany retains the good record of last year on the President's Message. It was received yesterday by operators Waterbury, Van Warmer, Coates and C. E. Shelley, without a break.

The recent cold snap closed navigation, and likewise the Lumber District office, which has been in charge of John P. Brayton the past season. John has managed the office in a manner which we should say must be entirely satisfactory to the company, and reflects credit upon himself. He is now in the main office.

The rumor that the salaries of all the W. U. employees is to be reduced brings joy to the hearts of all the boys here, and now if they will only ask us to work five hours per day longer than at present, we will be the happiest mortals on earth. Come, boys, let's put our shoulders to the wheel and roll up the company's net profit to five millions next year.

522 A street for 52 Ida street is good. "Superintendent" Steward is thinking of removing the operator that caused him to make that bull. X Y Z.

How New Orleans Likes the Reduction.

NEW ORLEANS, LA., Dec. 8, 1875.

DEAR OPERATOR:

In my last I promised to "do" my own department in this letter, but with your kind permission I will postpone that, and again take up the operating department, which will probably prove more interesting to the majority of your readers.

The operators are considerably exercised over the reported order reducing their salaries. It will be remembered that last January they were presented with a similar "New Year's present," and they hardly thought the company would make them such a "nice" present every year. The first they heard of it was on Tuesday morning last, when Babbitt quietly presented himself at Weden's desk with:

"Have you heard the latest?"

"No," answered Weden, "what is it?"

"Why, Galveston says they have a notice up in St. Louis that there is to be a general reduction of twenty-five per cent., to take effect January first."

"Too thin," says Weden. "It must mean only in that district."

"No," replied Babbitt; "it's a general order, and affects every employee, from the President to the check-boys."

The look on Wedin's face can be better imagined than described; it was a mixture of disgust and incredulity, but having quietly thought over the matter for a few moments, he seemed to have decided it was what he terms a "stiff," after which decision he turned and told it to Williams in all earnestness, but congratulating himself that he was helping to circulate the biggest "sell" of the season. Well, so he was, but we sell for more than he anticipated. The report gradually got circulated around the office, but I don't believe there were three men in the whole building that really believed the story. They all seemed to take it as a big joke gotten up by Wedin, but this morning's *Times* confirms the report, although the reduction is not going to be quite as large as was reported. I was up stairs this morning, and the faces of the men were a study for a physiognomist. Ayers keeps up a continual smile. Now, you must not imagine from this that he is pleased, far from it Ayres smiles "loudest" when he's the most angry.

Wedin still has on the look of disgust, but the incredulity is all gone. Lelamp has a don't-care-a-cent sort of look which indicates that he does care more than he wishes to say. Williams looks rather sober, and seems to have taken a sudden interest in mathematics. He has wasted a bunch of paper already estimating what the salaries of different grades of employees will be under the new rule. Jimmie Maloney wears a look of firm determination, and says that if they reduced his salary he will resign. This, I am confident, the Executive Committee will regret to hear. West and Fulhan are all smiles and pleasant words. So I infer that they are practicing sweet looks to bestow on their landlady when they ask her to reduce their board in proportion to their salaries. Moxon looks rather glum, but I understand he expects to make up for it by issuing premium chromos with the *Electric*. Babbitt doesn't look as bad as the rest, as I believe he expects to make up all losses by acting as your agent here. This gives him a confident look. Smithy expects to square himself by working "extra;" he therefore has as happy a look as if he had married an actress. Several expect to make enough on the horse races, which commence here next Saturday, to keep them for the year. Although all regret the reduction, yet there is a hopeful feeling, and I really don't believe there is one man but what expects to keep out of the poorhouse for at least three months. The married men are the ones that will probably "catch it" worst. It costs from \$70 to \$90 per month here for a man and his wife to board any way decent, so you see if a fellow only gets \$90 or \$100, he can't afford to buy his wife over one silk dress a month, even if he does give up cigars and take to a pipe, as Fisher has done.

I am sorry I mentioned Riddick's widow in my last, for by some way or other the paper got in the hands of a person who takes considerable interest in him, and by the looks of his hair and the marks on his face, I should judge she had been trying to collect the interest.

I understand your paper is commencing to take very well in this section. I congratulate you upon it, and assure you if you see that your subscribers are promptly supplied with their copies, you will soon reach five instead of two thousand an issue. More anon. NATIVE.

President Grant on Telegraphic Cables.

PRESIDENT GRANT, in his annual message to Congress in speaking of the telegraph cables, says:

The electric telegraph has become an essential and indispensable agent in the transmission of business and social messages. Its operations on land and within the limit of particular States is necessarily under the control of the jurisdiction within which it operates. The lines on the high seas, however, are not subject to the particular control of any one government. In 1869 a concession was granted by the French Government to a company which proposed to lay a cable from the shores of France to the United States. At that time there was a telegraphic connection between the United States and the continent of Europe (through the possessions of Great Britain at either end of the line), under the control of an association which had, at large outlay of capital and at great risk, demonstrated the practicability of maintaining such means of communication. The cost of correspondence by this agency was great, possibly not to large at the time for a proper remuneration for so hazardous and costly an enterprise. It was, however, a heavy charge upon a means of communication which the progress in the social and commercial intercourse of the world found to be a necessity, and the obtaining of this French concession showed that other capital than that already invested was ready to enter into competition, with assurance of adequate return for its outlay. Impressed with the conviction that the interests not only of the people of the United States, but of the world at large, demanded or would demand the multiplication of such means of communication between separated continents, I was desirous that the proposed connection should be made, but certain provisions of this concession were deemed by me to be objectionable, particularly one which gave, for a long term of years, the exclusive right of telegraphic communication by submarine cable between the shores of France and the United States. I could not concede that any power should claim the right to land a cable on the shores of the United States, and at the same time deny to the United States, or to its citizens, an equal right to land a cable on its shores. The right to control the conditions for the laying of a cable within the jurisdictional waters of the United States, to connect our shores with those of any foreign State, pertains exclusively to the Government of the United States, under such limitations and conditions as Congress may impose.

EQUAL PRIVILEGES DEMANDED.

In the absence of legislation by Congress I was unwilling, on the one hand, to yield to a foreign state the right to say that its grantees might land on our shores while it denied a similar right to our people to land on its shores. And, on the other hand, I was reluctant to deny to the great interests of the world, and of civilization, the facilities of such communication as were proposed. I therefore withheld resistance to the landing of any cable on condition that the offensive monopoly feature of the concession be abandoned, and that the right of any cable which may be established by authority of this Government to land upon French territory, and to connect with French land lines, and enjoy all the necessary facilities or privileges incident to the use thereof upon as favorable terms as any other company, be conceded. As the result thereof, the company in question renounced the exclusive privilege, and the representative of France was informed that understanding this relinquishment to be construed as granting the entire reciprocity and equal facilities which had been demanded, the opposition to the landing of the cable was withdrawn.

The cable under the French concession was landed in the month of July, 1869, and has been an efficient

and valuable agent of communication between this country and the other continent. It soon passed under the control, however, of those who had the management of the cable connecting Great Britain with this continent, and thus whatever benefit to the public might have ensued from competition between the two lines was lost, having the greater facilities of an additional line and the additional security in case of accident to one of them. But these increased facilities and this additional security, together with the control of the combined capital of the two companies, gave also greater power to prevent the future construction of other lines, and to limit the control of telegraphic communication between the two continents to those possessing the lines already laid. Within a few months past a cable has been laid known as the United States Direct Cable Company, connecting the United States directly with Great Britain. As soon as the cable was reported to be in working order the rates of the then existing Consolidated Company were greatly reduced. Soon, however, a break was announced in this new cable, and immediately the rates of the other line, which had been reduced, were again raised. This cable being now repaired the rates appear not to be reduced by either line from those formerly charged by the consolidated companies.

ANXIOUS CAPITALISTS.

There is reason to believe that large amounts of capital, both at home and abroad, are ready to seek profitable investment in the advancement of this useful and most civilizing means of correspondence. They await, however, the assurance of the means and conditions on which they may safely be made tributary to the general good. As these cable telegraph lines connect separate States, there are questions as to their organization and control which probably can be best if not solely settled by conventions between the separate States. In the absence, however, of international conventions on the subject, municipal legislation may secure many points which appear to be important, if not indispensable for the protection of the public against the extortions which may result from a monopoly of the right of operating cable telegrams, or from a combination between several lines:

I. No line should be allowed to land on the shores of the United States under the concession from another power which does not admit the right of any other line or lines formed in the United States to land and freely connect with and operate through land lines.

II. No line should be allowed to land on the shores of the United States which is not by treaty stipulated with the Government from whose shores it proceeds, or by prohibition in its charter or otherwise to the satisfaction of this Government, prohibited from consolidating or amalgamating with any other cable telegraph line, or combining therewith for the purpose of regulating and maintaining the cost of telegraphing.

III. All lines should be bound to give precedence in the transmission of the official messages of the governments of the two countries between which it may be laid.

IV. A power should be reserved to the two governments, either conjointly or to each, as regards the messages dispatched from its shores, to fix a limit to the charges to be demanded for the transmission of messages. I present this subject to the earnest consideration of Congress. In the mean time, and unless Congress otherwise direct, I shall not oppose the landing of any telegraphic cable which complies with and assents to the points above enumerated, but will feel it my duty to prevent the landing of any which does not conform to the first and second points as stated, and which will not stipulate to con-

cede to this Government the precedence in the transmission of its official messages, and will not enter into a satisfactory arrangement in regard to its charges.

The Telegraph in the New York Post Office.

TWO MILES OF ELECTRIC WIRES AND EIGHT MILES OF SPEAKING TUBES.

Electricity does the work of messengers in the new post office in this city. Between the floors and the ceilings is a network of wires and speaking-tubes extending throughout the building. Their working was illustrated one afternoon last week in the Postmaster's room, the point of divergence of most of the wires and tubes used by the post office officials. The Postmaster gave three taps on all the knobs in the annunciator, and at once summoned to his room for consultation the assistant postmaster, the searcher, the cashier, the general superintendent, the auditor, the superintendent of carriers, the dispatcher, the superintendent of money orders, and the superintendents of other departments.

There are seventy-five electric annunciators in the post office, nearly all of them similar to the Postmaster's. They are connected by two miles of wire and eight miles of speaking-tubes. The largest of the annunciators is in the first story of the post office, and weighs two tons. It cost \$5,000. It has 126 signals. Three batteries of twelve cells each supply the electricity of the building.

DOMESTIC NOTES.

THE price of lunch tickets has been advanced from three dollars to three dollars and fifty cents, the former price not paying the cost of the material furnished.

THE message was from the St. Nicholas Hotel, N. Y., and Mr. Willis of "Z" office rendered it: "Sent first his evening." A repetition changed it to "Sent first this evening," which sounded sensible enough.

"Col. T. Pat. F. A. Co.," for "Colt Pat. F. A. Co." "Ballard."

"Jno. C. Larke," for "Jno. Clarke."

"McDermott."

"Supt. Motive Power and Machinery," for "Supt. R. R." "A. A. Smith."

And wasn't a very fine night for bulls either.

LAST Tuesday afternoon was quite wet. One of the American District messengers had a dispatch addressed Mrs. Raindeer.

Lady from upper window: "Is it Raindeer?"

Messenger at door: "Yes, ma'am, raining very hard. Please not keep me out in the wet."

THE messengers of the American District Telegraph Company are only paid six cents an hour for overtime now, instead of eight, as heretofore.

"FIGURATIVELY speaking," as the young lady said when she wanted to know what her next number was.

JOHN CLARK, summoned "Fox," enveloped clerk in the New York office, talks of going to the city.

FRANK COYLE, in the General Superintendent's office, is thinking about competing for literary honors. Indian stories are very popular.

CURIOUS CASE OF A CROSS. The following curious entry appeared in the *Evening Star* last week: "Found 33 grounded in twelve sound (a) a bird shot getting under ground plate. John Smith, Conn."

"I HAVE been from the top of the house to the bottom, but can find no one answering to either the name of Professor Cross," completed the message.

"Very well," replied the messenger. "You have not seen if you can find Professor Rogers."

And he did. This is one of the city offices.

PERSONAL.

PROF. DAVIS, from Elmira, talks strongly in favor of a sixteen sided arrangement to work with less battery than it takes to run a common local. Look out, Jim, you'll be suspected of furnishing Edison with ideas for the perfection of his "Aerial Telegraph."

THE boys in the Western Union main office have been getting up a little money for the destitute family of an old telegrapher. Upon hearing of the circumstances, Fred Seibert subscribed five dollars, although he is at present out of the telegraph business.

MR. TALCOTT, of "197," and Mr. Mudgett, of "Fx" office, are at present successfully manipulating a private duplexed line between their respective residences in Brooklyn. They are both young and enterprising telegraphers.

BOB LOWN has been detailed to receive Congressional press from Washington during the present session of Congress. It is almost needless to add that there are "no bugs" on Bob either as a telegrapher or gentleman.

It is said that Mr. Jennings, *alias* "Handsome Charley," of the Chicago duplex, has made a terrible havoc among the tender hearts in the back part of the room. But the girls don't know him.

MR. JAS. F. CRATE, after long and worthy service on the twelve to nine trick, has been transferred to the regular day force of "197." Jim entered the biz some time previous to the Revolution.

DID ever any one notice the remarkable resemblance that the chief and assistant ushers in one of the Brooklyn theatres bear to Messrs. Watson and Talcott of the Western Union Office?

THE PRINTERS' ELECTION.—Typographical Union No. 6 at its recent election elected Hugh Dalton President. This is the Union that voted \$500 to the operators while out on strike.

THE millennium has arrived! Harmon and Sprague have been discovered studying a Sunday-school lesson, and Allen has joined a primitive Methodist church.

FRANK P. COX has been transferred from 22 South to first Chicago wire, and J. F. Cleverdon from the Springfield wire to work alongside of "Crow" on first Chicago.

JOHN HEMMENS, who formerly worked the State Press wire has returned to this city from England, and is now employed in the A. and P. office, at 145 Broadway.

A. S. LOCKE has again gone West. "Abe" is a thorough gentleman, and his former confreres heartily wish him that success which his indomitable will deserves.

MONROE LABAUGH is the happy father of a real pretty little girl, and he was telling one of the boys how nicely he managed to keep it out of THE OPERATOR.

WHERE was Cook when the Billiard Tournament was organized? He should certainly have had a finger in the pie. "Bif," we'll look for you at the next.

MISS SAULSBURY AND OLIVER received a great deal of press report relative to the "Sunnyside" disaster, and acquitted themselves creditably.

MR. THOS. C. NOBLE, JR. "Chops," has left Augusta, Maine, and pitched his tent at Cumberland Centre, same State. May he live long and prosper.

MR. CLINTON H. SCOTT, manager of the S. L. and S. R. R. office, Towanda, Pa., makes the handsomest copy we have seen in a long time.

MR. GEO. T. MUSSON of "D X" office was presented November 15th with a bouncing boy, weight 14 pounds. Congratulations.

MISS MARTIN received it to the Hon. L. Brunswick, but some one suggested that it might be Hotel Brunswick. Ha! ha!

LITTLE KATIE, short but sweet, holds the key at Shingle Creek, and writes good Morse clear and sweet. That's poetry.

"FRANG CHONES," of the night force is shortly to made his debut in "Dutch Tragedy." Full notice will be given.

MR. ALEX. PATERSON is agent and operator at Midland, Ontario—not John, as we stated in a former number.

MISS SAULSBURY, LOUCHLIN, AND CARRIE BREIER, of the W. U. main office, make beautiful copies.

FAILING health has compelled Mr. E. S. Ely, of "Dx," to present his resignation, taking effect Jan. 1st.

SENATOR BILL IVES, from Seneca Falls, N. Y., passed through here lately on his way to Washington.

J. W. McLAREN has been transferred from first Chicago to the Cable Department, *viz* Sawyer.

GEORGE W. SAWYER, cable operator, has been transferred from New York to Washington, D. C.

ED. MILLER has joined the noble army of Benedicts and is marching on. Our 73, "Mi."

FRED. HICKEY is the manipulatist at Carthage, N. Y. He generally ends up with a "Hy."

MISS MOLLIE BRITTON has been transferred from Dry Dock to the W. U. main office.

THE jovial cableist, Captain Mackintosh, has returned from the Spanish Main.

ANSEL PENNEY is at DeKalb Junction, N. Y. Good sender and good receiver.

A. J. MOORE is manager at DeKalb Village, N. Y. Says he likes the OPERATOR.

MR. H. MCGONEGAL has been appointed Manager of 812 Sixth Avenue office.

MISS MCHOLLAN, who has been absent for several weeks, has resumed duty.

W. H. JACKSON has been transferred from 195 Broadway to 14 Broad St.

"T," "V," "J," "N," "Z," and D, are the rushers at Oswega. First-class.

MR. ED. GORDON has returned to his post after an absence of some six weeks.

How natural it looks to see old Dad Bennet back. He is a twelve to nine.

H. S. LARCOMBE has been transferred from 7 and 10 Erie to 17 South.

J. A. TWITCHELL is working with U. & B. R. R. R. Co., at Watertown, N. Y.

UNCLE JOHN WAIT is the sushee at Philadelphia City office, N. Y.

GEO. L. DENGLE has moved from Elizabeth, N. J., to Philadelphia.

MESSRS. DONNELLY AND COLE are with the R. W. & O. at "Rd."

W. S. JONES is the agent and operator at Pierrepont Manor, N. Y.

G. A. OCHUS is the U. S. operator at Maricopa Wells, A. T.

E. W. EMERY, Sacramento, Cal., has our thanks for favors.

JIM DYER handles lightning at Philadelphia Depot, N. Y.

MISS E. J. DAVIES blooms and blushes at Westervly, R. I.

GEO. W. COOKE holds forth at Antwerp Depot. W. R. DIMOCK is at Foot of Plane, Pa.

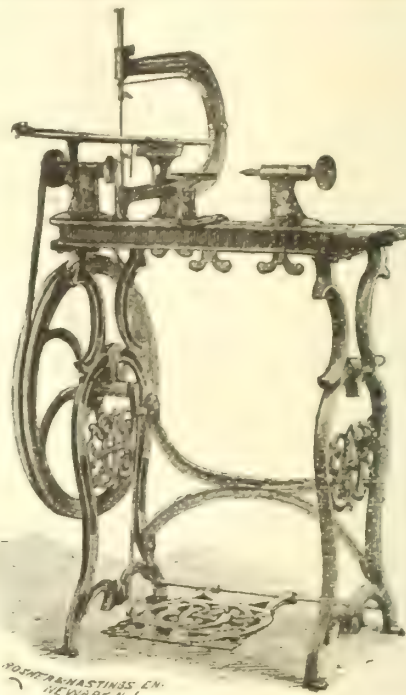
E. D. EMERICK is at Mohrsville, Pa.

MARRIAGES.

DAVIS—TODD.—In Keene, N. H., Dec. 1, at the residence of the bride's parents, by Rev. William O. White, Mr. Frank M. Davis, Manager W. U. Tel. Office, Bellows Falls, Vt., to Miss Ella A. Todd.

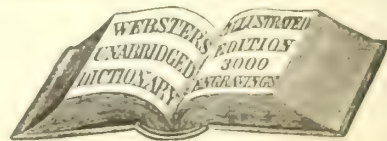
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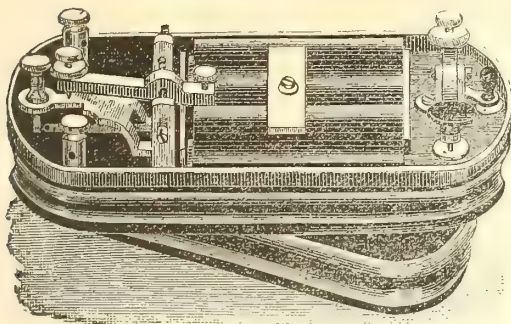
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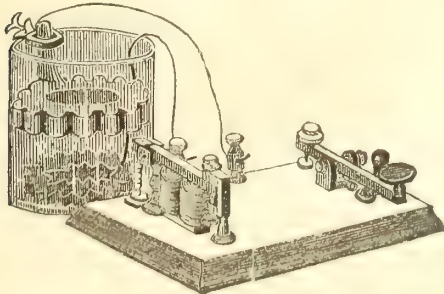
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which has long existed. Price of Instrument, \$22.00 (check
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1846. Thirty-first Year. 1876.
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FULTON, Mo., Dec. 14th, 1874.

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I sawed 110 frets for balustrade for portico, and 15 brackets, in
first two days' running. Every one who has witnessed the
working of the Saw, has pronounced it the most useful ma-
chine ever invented. I have been working from twelve to six-
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your machine, running it daily since I purchased it, and have
paid nothing for repairs, except for saws, which amount was
comparatively small. Three weeks since I purchased some
imported woods and some nice designs, and turned my atten-
tion to fret work. I have averaged per day, since that time,
\$11.50. I know of no occupation as pleasant and profitable for
a mechanic to spend his winter days as at the above. Your
machine runs so lightly and easily that it will not tire the
most delicate man after a little practice; in fact, I consider
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his business is, as he can introduce the little machine to his
scrap pile, and make enough brackets in one week to pay for
his machine. I consider my machine just as essential in my
shop as a set of bench planes.

Very truly,

M. FRED BELL,
Architect and Builder.

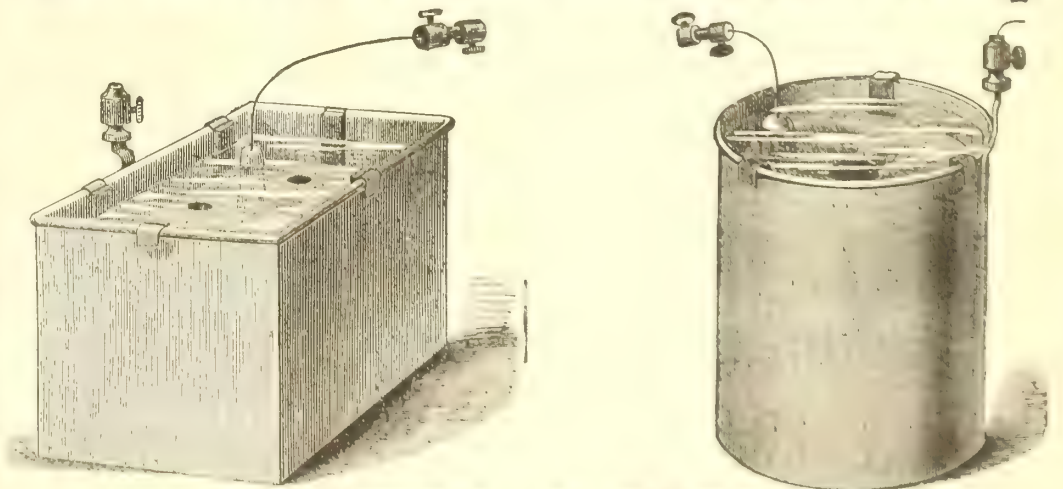
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GRINNELL & EAGLES,
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Owners of the Celebrated

EAGLES METALLIC BATTERY.**SEND FOR IT DIRECT. WE HAVE NO AGENTS.**

Simple in construction, requires no skill to set up, or trouble to manage. It does its work, with econ-
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For open circuits, the Eagles Metallic Battery has been found to be a perfect success. The Battery is used in
several telegraph lines, and has proved specially adapted for Electric Railway Signals, Electric Bells, Electric
District, and other telegraphs where a constant battery is required. Meters, and other (should it be?)

PATENT OFFICE N. Y. April 11, 1874

EDWIN EAGLES. *Dear Sir:* I have been very much interested in your advertisement for the Eagles Metallic Battery, and have
years of trial and observation have come to the conclusion that it is the best for the purpose for which it is advertised, and I
presented. Its constant electric motive force, and economy of use, together with its compactness, and the fact that it
batteries at the head of the list. I could not but without the Eagles Battery.

GEORGE ELLICE,

Contracting Electric and Architectural Engineer.

AGENTS WANTED EVERYWHERE
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Magneto Printing & Dial
TELEGRAPH
INSTRUMENTS.

The Most Reliable and Fastest
PRINTING INSTRUMENTS
THAT ARE MADE.

No Acid or Galvanic Batteries Used!

Will pay for themselves in a few years by
saving all the expenses of Batteries
required by any other Print-
ing Instrument.

Our Instruments are used by the cities of Boston, Cam-
bridge, and Fall River, Mass. for their Police Telegraphs; by
the United States Treasury Department, Washington; the Cun-
ard Steamship Co.; the Boston and Albany Railroad Co.;
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Fall River; the Washburn & Moen Manufacturing Co., Wor-
cester, and numerous other manufacturers, merchants, &c.,
many of whom had Battery Printers, but after giving our
Magneto Printers thorough trials have purchased them and
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All persons using Battery Printers would

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In a few years by THROWING THEM AWAY and purchasing
our Magneto Printers, thereby getting rid of all the trouble and
care of batteries, and by the change would get the most reliable
and most rapid printing instruments that are made.

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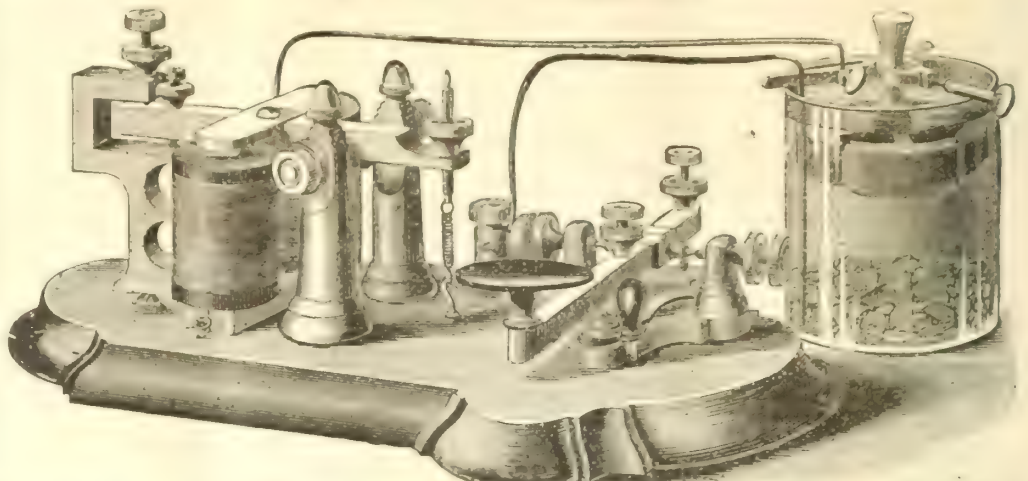
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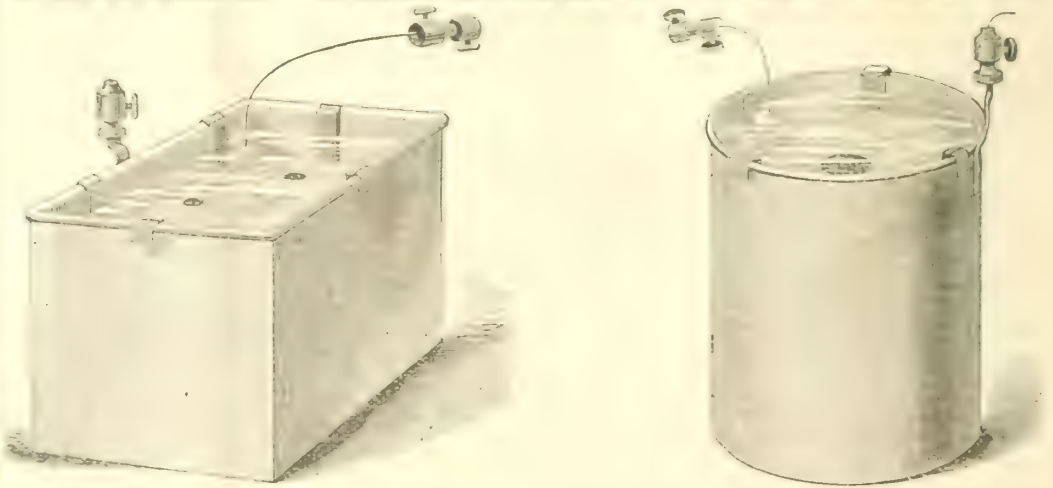
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No. 2

The Eagles Metallic Galvanic Battery,

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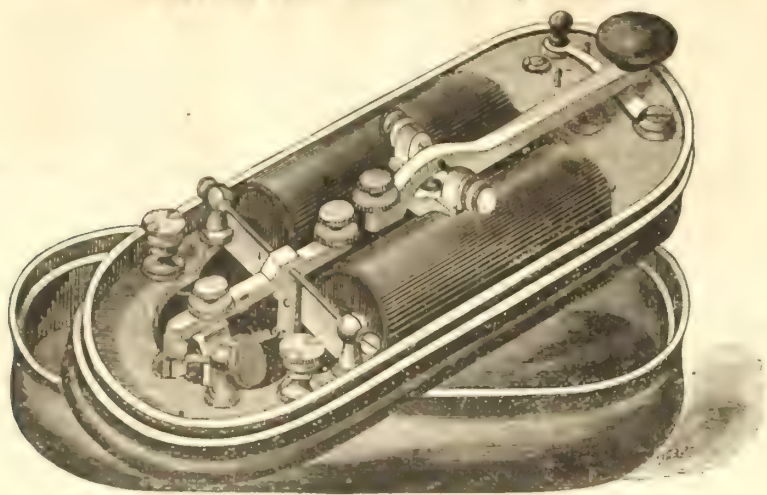
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of carbon or other acid batteries, with the constant and enduring capacities of the Calland, Daniells, or
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Simple in construction, requiring no skill to set up, nor the least trouble to manage, it does its work
with steadiness, economy, and **DOUBLE THE AMOUNT OF POWER** of any sulphate of copper bat-
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When set up properly, it will not foul or give out in from three to twelve months, according to the
amount of work required from it, and always gives uniform strength of current.

**For OPEN CIRCUITS, where all other gravity batteries are acknowl-
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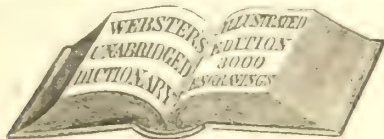
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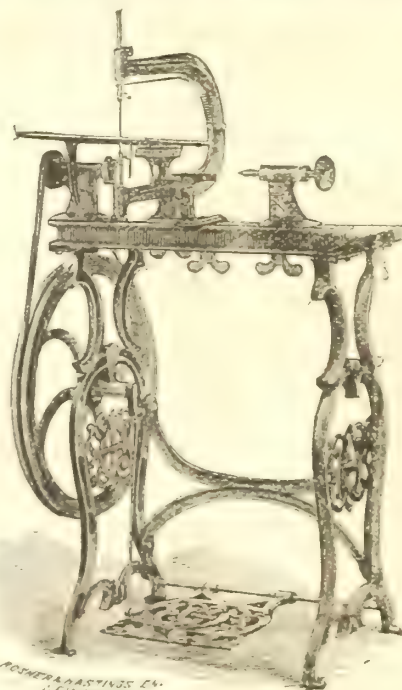
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BELL TELEGRAPH.

For establishing communication between different rooms and parts of public and private buildings, between mansions and stables, offices and other detached buildings, in manufactories, between the offices of the Superintendent and Manager, and the different departments or buildings, and in fact, in hundreds of ways too numerous to mention in detail, where such facilities are requisite and convenient, the Electric Bell Telegraph will be found to supply just what is needed, and once introduced, it will become a necessity, and greatly facilitate business and domestic matters.

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No. 7 Murray St., New York.

CHARLES WILLIAMS, JR.

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INSTRUMENTS,

BATTERIES, WIRES, AND SUPPLIES
OF ALL KINDS.

109 COURT STREET, BOSTON, MASS.

Prices as Low as the Lowest.

NEW YORK, December 6th, 1875.

TO WHOM IT MAY CONCERN:

By mutual consent, from the above date, the co-partnership heretofore existing between Edwin Eagles and the undersigned, known as the Firm of Grinnell & Eagles, is hereby dissolved. The undersigned will continue to furnish all kinds of Electrical and Telegraph Instrument Supplies, etc., at manufacturers' prices. Thankful for past favors, and soliciting your future patronage,

I am, yours truly,

H. B. GRINNELL,

No. 7 Murray Street, New York.

The Operator,

A JOURNAL OF
SCIENTIFIC TELEGRAPHY.

PUBLISHED BY
WILLIAMS & JOHNSTON.

January 1st, 1876.

Volume IV.

Whole No. 46.

ORIGINAL ARTICLES.

"'76."

"Pass '75 across the Styx!
Make room for stately '76."

ANOTHER year has taken flight!

While watchers wait on bended knee,
Twelve solemn strokes in dead of night,
Proclaim the death of a century!

A hundred years have passed away,
A hundred years of toil and care,
Since our great nation's natal day;
A hundred years of work and wear.

A hundred years of peace and strife,
A hundred years beneath their pall,
A hundred years of joyous life
Are gone! all gone, and past recall!

Old 'seventy-five lies cold without,
Beneath grim winter's mantling snow,
While welcome we, with joyous shout,
Young 'Seventy-Six's youthful glow.

Farewell, farewell, old fading year,
May thy long rest all peaceful be!
And hail! all hail! thou bright one here,
Whose glad young face we've longed to see.

Unburden now thy loaded back,
Enthroned be seated here at home,
Unfold the contents of thy pack,
The brilliant hopes of days to come!

What hopeful promises hast thou?
What cheerful prospects dost thou bring?
Unfold the future to us now,
While we proclaim our new born king!

In his hand he holds a glass,
Which he opens to our gaze,
O'er whose reflecting surface pass,
The promised scenes of future days.

And what are these we gaze upon?
The hurrying, ever changing views,
In swift succession passing on,
An endless train of brilliant hues!

Here glittering pageants move along,
With banners wave and flash of steel,
A host of true men, brave and strong,
In helmet-plume and spur-shod heel.

Now ponderous structures meet the eye,
With spacious domes and turrets tall,
And on each pinnacle towering high,
The eagles perch and guard o'er all.

And see the dense o'er gathering throng,
The people of a world are here,
A surging mass they crowd along,
The gathering of our hundredth year!

Crowned heads and potentates sublime,
From all the corners of the earth,
From every land, from every clime,
Join to proclaim our nation's worth!

Anon a darker scene is traced,
With grim reflections from afar,
The mirror's bright scene is effaced
With horrid clash and din of war!

Oh! may that sad fate not be ours,
Our country meet so sore a fall;
If come it must to other powers,
Still let us pray, God save them all!

Next come the deeds of mighty men,
Oppression's hand is backward hurled,
Achievements great of brain and pen,
Inventions new to bless a world.

The grimy-handed sons of toil,
Uphold our land's fair fame still higher,
Inventors bring, from "midnight oil,"
New wonders for the "talking wire."

Still crowding, hurrying, rushing past,
The hopes of future days arise,
A noble scene, too fair to last,
Anon it trembling, paling, dies.

The glittering surface slowly fades,
O'erspread with misty somber haze
The dim futurity it shades,
And shields from our enraptured gaze.

And solemnly the New Year speaks,
As we sit listening by his side,
With brightening eye and blooming cheeks,
Well fit our onward steps to guide:

"Your fathers long have labored well,
Behold the rich fruits of their toil!
Their days of triumph I foretell,
While they sleep calmly 'neath the soil.

"It is for you—the sons of those
Who for their land their life-blood shed,
With toiling hand and mighty blows,
To tread the path where they have led.

"Yours the will and yours the power,
To hew your country's destiny,
Oh, may you consecrate this hour
By vowing to her true to be.

"Then welcome all my children here,
Enjoy your well-earned harvest home,
And work and toil through this new year,
To glorify the year to come.

"And at your next 'Centennial,'
When you too shall be dead and gone,
May then the verdict be, 'Tis well,
Their blessed work is nobly done!"

NEF CED.

PHILADELPHIA, Dec. 31st, 1875.

Scene: W. U. Office Auburn, N. Y. Enter small boy handling bottle to manager: "Say, mister, will you please gim me some of that stuff?"

Manager, politely—"What stuff do you mean?"

Boy—"Why, that are stuff what yer put on the telegraft wires."

Manager—"Oh, you mean electricity?"

Boy—"Yes sir, that's it."

Manager—"Well, I am sorry, but we can't spare any to-day."

Exit boy. Curtain falls amid loud applause from behind the counter.

HERE is a specimen of No. 53 "gutter" copied verbatim of literature by a first class man, who says that's the way it "Cue."

Zi—num—ant Sat nixn wilegent ya—du—Other wise rendered, Vi—Jin—Am't that tram at Tremont yet?

Honesty is the Best Policy!

BY ALEX. AMOS.

Peter Prangle was a Yankee. Peter Prangle was an ingenious Yankee. Peter Prangle was also a telegraph operator; and an ingenious Yankee telegraph operator is hard to get ahead of.

Peter's office was in the small village of Barnsdale no matter what State or Territory. Peter's salary was small, which, no doubt, was the cause of all his misdoings.

In Peter's office and in front of his table was a counter for the convenience of the public to write messages on, and transact their business with Peter.

One evil day Peter conceived what to him was a brilliant idea to make a few extra dimes. He immediately ordered a new battery, and bought a sheet of zinc.

With part of the zinc he covered the top of the counter; the battery he set up under the counter, giving it as much power as possible, and connecting one pole with the ground and the other pole with the zinc on top of the counter, arranging it so he could connect or disconnect them at pleasure. The other part of the zinc he tacked to the floor in front of the counter, also connecting that with the ground.

After all was arranged to his satisfaction, he provided himself with plenty of coppers, nickles, etc., and calmly awaited his first victim, who came in the person of an honest old farmer, who wanted to send a message. The message came to thirty cents, and Mr. Farmer handed Peter a fifty cent scrip to take his pay. Peter counted out twenty one-cent nickles, made his connection, laid them down on the zinc, and appeared to be very busy sending the message. As Mr. Farmer stood on the zinc in front of the counter which was a good "ground," the moment he touched one of the nickles to pick it up he made the circuit complete through him, and, consequently, got a "shock" which so startled him that he did not pick the nickle up, but gazed around the office in mute astonishment; he made the second attempt to pick up his change with the other hand, but, of course, with the same result. After listening a few moments to the mysterious clicking noise, and bestowing a glance of suspicion on Peter, he slowly departed, resolved never to have anything to do with that "durned consarn again."

Peter got up, and, with the air of a conqueror, disconnected his battery, picked up the change, went into the saloon, and called for a drink, astonishing the saloon keeper by paying for it.

In this way Peter victimized quite a number of both honest and dishonest people and would probably have been at his nefarious work to this day had not a catastrophe happened that made him a believer in the heading of this tale.

One day a rather stout, thick set man of not very genteel dress or manners, came into the office and inquired of Peter if he was the operator. Peter informed him that he was. Back of the man's face, The man walked up to the counter and, leaning over it, began to intone in a hoarse, throaty, guttural voice what Peter thought a rather low-spirited message. As Peter was quite busy that day he thought the quickest way to get rid of that suspicious individual would be to apply the battery, which he accordingly did. Now that was where the trouble made in. It did not scare that individual very much, "worth a cent," but it did hurt very much. With one bound he cleared the counter, and, grabbing Peter by the nose of the neck, lifted him up and said: "You told me what he wanted in this new battery, and proceeded to effect Peter from the office, and the middle of the street in no very gentle manner. He then picked up the man's office, and ordered an assistant to be sent to Barnsdale immediately, as Peter Prangle had got through there.

By some misadventure, however, Peter had not been notified that the Superintendent was in town that day.

Thus it is again shown that Honesty is the best policy.

"Down in the Coal Mine, Underneath the Ground."

HARTISTON, PA., December, 1875.

I never was very vain on the score of my personal appearance; indeed, the prominent beak and the glowing fiery locks which have been for years and generations most prominent landmarks in the house of Ced, have always been rather tender points with me; but to-day, as I emerged again into the daylight, and presented myself to the admiring gaze of Mrs. C., her first exclamation would have been enough to utterly demoralize and kill forever any lingering spark of personal vanity which might have remained hidden in my murky bosom.

"Well, you are a beauty now, ain't you!" only this and nothing more; but the tone of bitter sarcasm in which the words were uttered, and the evident shrinking away from a too close contact with garments *not* of the latest style nor of immaculate purity, spoke volumes. And a look in the glass convinced me, against my better judgment, that for once Mrs. Ced was right. She had literally hit the nail on the head; I *was* a "beauty," and no mistake. Dirt, smoke, soot, and grease had transformed those classic features beyond all semblance of their former selves. An unwashed specimen of the Fifteenth Amendment class would have formed a most brilliant contrast beside that begrinned visage. The massive bugle of the Ceds was polished with soot until it shone again, and the only recognizable feature left to prove my identity were the flowing auburn locks which still glowed forth in their glory fiery and unsubdued.

"You see I had done as the Romans do, and been 'Down in the mine,' and it's no fool of a place to go into, I assure you!"

The first thing to do in the way of preparation is to "dress up" in the most forlorn and woebegone garments you possess. If you haven't anything quite stylish enough, you have only to step out on the street and swap garments with the first or dirtiest laborer you chance to meet; hook a young teapot on the front of your hat, with a wick crammed down its nozzle, pocket a can of loud smelling fish-oil into your north pocket, get into rubber boots six sizes too large for you, and you are ready, and start off with the pleasing consciousness of being just about as hard and desperate looking as nine-tenths of the men you will meet above or below the surface.

Arrived at the head of the "slope," we lit up our head lights, and reclined gracefully on the floor of a coal car, which hung suspended on a track of a fearful pitch, which slid down out of sight into a black hole in the ground, which didn't look in the least inviting, I assure you; but we were in for it, and couldn't back out if we would, as the car started and went gliding down, down, out of the light, and into about the darkest darkness that I ever saw.

The pitch at first was not over forty-five degrees probably, but grew steeper and steeper, until at last we were standing up on the end of the car, and descending an almost vertical shaft. If that rope had broken just then, one life insurance policy would have been redeemable if the coroner *didn't* find any remains!

At the bottom of the slope we entered the main gangway on the "lower lift," and wading through mud and dirt past mules and cars, under a roof which shed smutty tears on us as we passed, reached his Satanic majesty himself, in the shape of "Pluto," a little engine, which is just a tight fit in the avenue through which he runs; and taking seats in uncomfortable proximity to a boiler which showed a head of steam that would rather discourage a man if it took a notion to blow up, started off for a two-mile ride right under the streets of the town. Well, I've ridden behind both a lightning express and a festive mule, but Pluto was the most interesting of the

three by far, for it was the most implicit "trusting to luck" business that I ever took a hand in, that racing along in utter darkness, with no end of chances for obstructions on the track, which might at any moment bring us up with a bang and a smash. But luck was with us for once, and the return trip was made safely at last, when we groped about the pumping engines and the mule stables, viewing the latter out of reach of flying heels; and then were hauled up to the "upper lift," to see some actual working of the coal. Here was the same stygian darkness, the same streams of water and slime from the black roof, and the mud under foot was becoming monotonous.

From the gallery at intervals radiated the "headings," from which the coal was being worked, and here we saw the whole *modus operandi*.

In a chamber some twenty feet in height in the "Mammoth Vein," a hole had been drilled, and there sat the miner loading it up, with his pipe and lamp dropping fire all around the open powder, and offering a beautiful opportunity for loss to another insurance company. The hole was filled and tramped down, the fuse put in and touched off, and—well, we didn't hang around there long!

In a few minutes a dull thud and heavy crash and cloud of smoke which almost stifled us, added a couple of tons of loose coal to the heaps, and left a chance for another "blow."

We had "smelt powder" and didn't like it, and left again for daylight. But wasn't it just a little tough to be received as we were at home? "King Coal" reigns supreme up here, and where they ever find a place to burn all that is taken out and shipped away, is a wonder to me even yet.

Trains of hundreds of cars running at full speed down the heavy grades are every-day sights, and once in a while when a train runs away down hill, there is a circus! The usual result is a smash up, which leaves a beautiful mass of wood, iron, and coal for the railroad hands to clear away, and the air blue with the "curses loud and deep" of the contractors.

But "time's up," and I hie me away from the land of soot and its hill tops crowned with "breakers."
NUT CED.

A New Telegraph Key that Will do the Work of a Dozen Old Keys.

A new key is being put into the telegraph offices of the Pennsylvania Railroad. Under the existing system a key and a sounder are required for every wire with which an office has connection. The new key can be connected with a dozen or more wires in turn, and requires no separate sounder. The key revolves upon a disk of hard rubber, attached to which, and projecting from its under surface, are a number of platina points, representing as many connecting wires, to any one of which the key can be turned; and it can be disconnected by a touch. This mode of connection, apart from its convenience, is said by the operators to obviate a difficulty familiar to those using the old key, whose point of contact is in the armature upon which it works, in which the current is frequently weakened or interrupted by the clogging of the points, resulting from constant friction. Mr. Hussey, the inventor, is building a factory at Menlo Park, N. J., for the manufacture of the instruments; and Mr. Edison, of Newark, discoverer of the new electric force, has purchased land at the same place for a factory, in which the machinery for some of his numerous inventions is to be constructed.

CAMP APACHE and San Carlos, Arizona, will soon be on the circuit of the United States Military Telegraph, the wire being nearly completed. Camp Grant, Arizona, office was opened Nov. 9th, 1875.

An Eastern Lady's Farewell to two Wires.

And now in the fullness of time the mandate has gone forth, that our faithful servants 3 and 50 are to be removed from among us. And as the good-bye is so soon to be spoken, our hearts are tender with memories of their fidelity in the years that are past, and we would not let them leave us without expressing our sorrow at parting with them.

*Farewell, farewell!
Like the bidding of a bell
Tolling with a sad refrain,
Not for those who rest from pain,
But for those who still remain!*

But we do not mourn as those without hope, for we know that our loss is their gain. The trials and "crosses" they have here will be unknown to them in the "greener fields and pastures new." Let us hope they will be as highly appreciated as they are in the old paths. Never, never, shall we forget them. And the question forces itself upon us, "Where shall we find others that we can trust as implicitly as these?" for they have been tried and "tested," and were *ever* found faithful. True, some being jealous of them charged them with incompetency, but upon investigation the charges in every case were found to be "ground"-less.

Is it their duty to tell of friend removed by death? With what tenderness and sympathy they carry the message which will cause some heart to ache.

Is it a message heralding the advent of another little waif upon the sea of life? Is it not told in softer accents and with sweeter cadence than news of lesser moment?

Again, is it a message

*Telling in a joyful strain
With a whisper, sweet refrain
Of the hearts no longer twain?*

Listen! With what a merry ring it "rushes" the glad tidings that another

*Is no longer cursed and fated,
But fondly loved and truly mated!*

Ah, dear old wires, we shall never find thy equals again! Farewell, farewell!

Belligerent Telegraphers.

We learn from the New Haven *Evening Register* that about a month ago two operators employed in branch offices of the Western Union Telegraph Company in that city, got into a quarrel over the wires. Some pretty hard names were called, and it was evident that the men were both very angry. Of course, there were listeners to the quarrel in other offices, and, as the company does not allow its men to do or say anything unbecoming to each other while on duty, the affair was in due time reported to Superintendent Fairchild; or it may be that the latter gentleman sitting in his private office heard the wrangle. At all events Mr. Fairchild called the offenders before him, explained to them the rules of the company, which are very strict, and warned them that the offense must not be repeated. He then incidentally remarked that if they had differences between them, which would not allow of a peaceful settlement, they had better meet half way between their respective offices and "have it out." Of course, he had no idea that the parties would act on this significant but really unintentional advice; but a few days afterward the quarrel was renewed, and it resulted in a challenge from one of them to decide their difficulties by "wager of battle." "Good," replied the other, "meet me in fifteen minutes at —," indicating a certain locality about equi-distant from the two offices. "I will be there," clicked back the other, and the two belligerents sallied forth. No words were lost between them on meeting, but with an earnestness that foreshadowed the desperate nature of the coming conflict, the two men "squared off," and in the twinkling of an electric spark were sending and receiving at a speed that put the duplex, quadruplex, and all the other plexes completely in the shade.

*'Twas blow for blow, disputing inch by inch,
For one would not retreat, nor cither flinch.*

The fight lasted quite a while, but finally one of them acknowledged himself vanquished, and the affair terminated. It is to be hoped that such a thing will not occur again for a long time.

Early-Day Telegraphy.

WINNING A BET UNDER DIFFICULTIES.

No great invention steps at once, like Venus from the foam of the sea, or Pallas from the brains of Jove, into being, 'completed at its birth. That such was the case with Prof. Morse's great achievement is practically explained by the following account of

BLUNDERING BY ELECTRICITY.

It was about twenty-five years ago. Telegraphy had scarcely outgrown its swaddling clothes, and the wires had only reached as far west as St. Louis. The operators were still comparatively inexperienced, and the public more so, many people regarding with incredulity the stories about the wonderful rapidity of transmitting messages. Gustave Bender, a rising young merchant of St. Louis, was one of the latter. He had come to America and gone to the Far West with his parents years before even the word telegraph had been whispered, or the name of Prof. Morse was known outside the small circle of his immediate friends. Bender's partner, John Stuts, on the contrary, was a firm believer in the new invention. He had been in New York and Baltimore when the wires were first used, and was slightly acquainted with the working of the instruments. Bender and Stuts had many disputes in an amicable way about it, the one declaring it all a humbug, the other stoutly protesting the truth of the amazing things published in the journals concerning it. Just as the telegraph was completed to St. Louis, Bender received by mail a letter from his wife, who had gone on a visit to the fatherland, informing him that she would sail from Liverpool on a certain day in the steamship Baltic, for New York. The letter had been delayed on the road, and the steamer was nearly due at the port of her destination when Bender received it. "The very thing, Gustave," said John Stuts to his partner, "is to try the telegraph and convince you of its efficacy." "Well," replied Bender, "I know it's all a humbug, and if you want to throw any money away on it, do so, I'll not give a cent." "See here, Gustave," began John, somewhat angered at his partner's obstinacy, "I'll bet you fifty dollars that I will send a message to our friend Heil, in New York, and get an answer from him before you are ready to start on your proposed trip to that city to-morrow morning. What say you?" "All right," replied Gustave, and the bet was duly agreed to. John went to the desk and wrote out in plain letters the following message:

CARL G. T. HEIL, No. 45 Beaver Street, New York: Gustave Bender's wife and sister on board the Baltic, from Europe. See them, and forward safely.

JOHN STUTS, St. Louis.

"And you think that letter will go through the wire to New York, John?" asked Gustave. "Surely it will, word for word, and it will be in Heil's hands before two o'clock this afternoon," said John. "Then I'll bet you another fifty to make you pay for trying to fool me," exclaimed Bender; and that second bet was also taken, and both walked to a telegraph office, where John delivered his message, paid the charges, and was told that it would be sent on at once.

That same afternoon Mr. Heil was in his Beaver Street store in New York, when a messenger brought him a dispatch. He signed a receipt for it, opened and read it—read it twice, three times; burst into a violent fit of laughter; read it again, but could make neither head nor tail out of it. The following was the way in which the message of Stuts had been transcribed in New York and delivered to Heil:

CARL G. T. HEIL, No. 41 Beaver Street, New York: Just on a bender. Live on blisters. Round to Baltimore on new rope. Season forward. Rate high.

JOHN STUTS, St. Louis.

Now, Heil knew John Stuts well as a sober, sedate, industrious business man, and concluded at once that there must be some mistake. Presuming that either some important business matter were hid under this meaningless jumble of words, or that

the operators must have made havoc with the dispatch as intended to be sent by his friend, he resolved to make inquiries at once by telegraph, and forwarded from New York the following:

JOHN STUTS, St. Louis: Repeat what the devil you mean. CARL G. T. HEIL, 45 Beaver St. New York.

Bender and Stuts were closing up their store on the evening of the same day, and the former was continually poking fun at his partner on account of the telegraph, Stuts simply replying: "Wait till to-morrow morning, Gustave, and you'll talk otherwise," when a messenger approached them, inquiring for Mr. John Stuts, and saying that he was from the telegraph office with a message from New York. "Oh!" cried John, "now I have got you, Gustave; the reply comes earlier than even I thought it would." He snatched the envelope from the messenger, put his name hurriedly to the receipt, hastily unfolded the paper, but the evening was too dark to read the faint writing, the gas-lamps in the streets not having yet been lit. The two walked briskly into an adjoining saloon, and there proceeded to ascertain the remarkably quick answer of their friend Heil, in New York. Stuts read as follows:

JOHN STUTS, St. Louis: Reptile; watch devil, you mean cur. Go to h—l. Forty-five pounds bear's grease, New York.

Stuts was amazed; he trembled with rage; but Bender quietly remarked, "Didn't I tell you it was all a humbug?" Yet John did not see it in that light. He felt convinced that one of the telegraph clerks whom he knew was only playing a dirty trick on him, and he would at once get even with the villain. "Let's go to the telegraph office, Gustave," he said; and both went. Here John met the young man whom he sought, and holding the offensive dispatch before his eyes, asked who sent it. "Dunno," said the clerk; "it came from New York." "It did?" howled John; "then take that from New York, too," and knocked the poor clerk down. Cries of "Help!" "Murder!" "Police!" were raised, and both John and Gustave were arrested and locked up for the night. Next morning the two got out on bail, and an investigation during the day, by repeating the two messages between St. Louis and New York, set matters right. John won his bet from Gustave, and the latter never again doubted that the electric telegraph was, indeed, a wonderful reality.—*New York Mercury*.

A Journey from St. Albans to Boston, via Rutland.

Telegraphic items on this route are quite numerous of late, but I don't see anything from this section in your paper since "Vermonters" stopped sending, so will take your advice and send some myself.

First of all that whole-souled Superintendent of the C. V. R. R. lines, Chas. A. Tinker, has left us, and has now charge of the Pacific Division A. and P., with headquarters at Chicago. We wish him success. He is succeeded at St. Albans by M. Magill, formerly chief operator, and a Christian succession it is, too. Mike is a perfect gentleman and an efficient manager.

Hub Barney, operator and station agent at Cuttingsville, Vt., has been promoted to the position of train dispatcher for the Rutland Division C. V. R. R. at St. Albans, and also makes things lively on other wires. H. L. Chase, of Northampton, takes night press at Burlington.

Combs, of Burlington, after recovering from the sickness which forced him to leave that city, tried the night press at Rutland, but to be again relieved on account of trouble with his lungs. It was then that Bailey put in the extras, winning comments from the papers, and a little "extra" from the company. Hope he made up his resolution.

An old timer, Charlie Bowtell, once of Springfield, Mass., was at last secured to relieve "Co." and at

though five years out of the business, is a full team and one to let. Happy to see him among the boys again. Davis, of Bellows' Falls, was so infatuated with his lady student that he was induced for once to forget his strictly temperance principles, and took a little Todd(y) in his December first. Long life to the happy pair. Cutter, of Keene, has grown mighty pleasant lately, and has cause enough for it, too. It's a boy. We learned while there that Judge Martin, formerly night manager of Boston, and more recently of N. Y. office, was elected Alderman from the fifth ward of that city at the late city election.

Jo Humphrey, of Winchendon, Mass., surprised us with a call the other day, and also with the announcement that he had fallen from grace and become a music teacher at Burlington, Vt. Johnny Gay, "G," of Winchendon, had a more agreeable surprise, however, by being presented with an elegant silver plated lantern by his many friends in Winchendon. On the globe was handsomely engraved his name and a W. U. sounder, these being encircled by a wreath of flowers and leaves. Amidon F., of Fitchburg, is disgusted with the reduction, and takes a position in V. and M. office in same place under that prince of good-fellows, Ed Smith.

And now we get into civilized regions, for at Ayer we find the pleasant and agreeable Miss Mary J. Bancroft. At Concord, the lively and amiable Miss Viola, and last, but not least, at Fitchburg Depot, Boston, the pert and accommodating Miss Noyes. Don't you wish I had stayed at home?

RAMBLER

What one of the Ladies Thinks of the Lunch-Room.

BROADWAY AND BET ST., 1
NEW YORK, December 19th, 1875.

TO THE EDITOR OF THE OPERATOR:

A few months ago our hearts were made glad by the announcement that in a week or two a lunch-room would be in readiness for the employes of the W. U. T. Co., wherein lunch could be procured at a reasonable price by any who wished to avail themselves of the privilege.

The news was what we had been longing to hear. "No more cold lunches," was the general cry which pervaded the spacious room of the W. U. T. Co. occupied by the "girls," (the "boys" speak for themselves).

At last everything was in readiness for us to step up stairs and call for anything we wanted, from a dish of soup to a roast turkey.

Well, things went on smoothly enough for a while, but only for a while, for presently we found that everything was not as lovely as we had anticipated.

Defects were seen which were either unobserved before, or if observed were allowed to slip without comment, so happy were we to be relieved from the dry bread-and-butter system.

But things grew more and more—What with the clashing of dishes, until one began to wonder as soon as in a Bellini, the "one" of time taking in getting what we called for, and then scolding on months and burning one's thumbs to get through within the allotted time, was sometimes a little provoking. The waiters, in so getting so provoking, committing that he has thus been to twenty tables to attend to at once. I have heard the remark made, that "one woman was busy to get her own order." What need for all of twenty to open the doors of the provision?

But all this could be overlooked if it was not for the fact that after a hurried dinner one found on one's way that one could not afford to pay, although contented oneself with lifting one's hand and a piece of pie, and the reason for this was that after a month or so. And when one could not afford to pay, one's interest in the W. U. T. Co. was diminished in the price of lunch. What a pity! I am sure that I am not alone in feeling as I do.

ONE OF THE GIRLS.

CORRESPONDENCE.

The B. and O. R. R.—Some Quick Telegraphing.

CAMDEN STATION, BALTIMORE, M. D.,
December, 23d, 1875.

TO THE EDITOR OF THE OPERATOR:

Not having seen anything lately from the boys on the B and O. R. R., I thought I would say a few words for them.

The headquarters of the Baltimore and Ohio are at Camden Station, Baltimore, the eastern terminus of the road. Col. Robert Stewart is Superintendent of telegraphy, and A. B. Crane assistant. The Colonel has full charge of all the telegraph lines operated by this company between Baltimore and Chicago.

There are two division operators west of the Ohio River. Messrs. O. M. Stone and J. C. Hankinson, the former located at Hicksville, and the latter at Newark, Ohio, managing the western divisions very efficiently. On this side of the Ohio, Mr. A. T. Cline, of Grafton, looks after the interests of the third and fourth divisions. The force in Camden Station consists of C. W. Charvot, manager and chief operator, with C. P. Adams, H. Hastings, Thos. Farley, and H. O. Stiltz as his assistants. Farley is the all night man. We have a magnificent nickle plated switch board containing forty-six wires, with ten instruments in circuit. The amount of business handled by this force, both railroad and commercial, would astonish the natives. This being the headquarters of every department of the B. and O. Co., and there being at least one thousand employees in the various departments, it is not strange that a large amount of telegraphing is done.

Superintendent Stewart has performed some extraordinary feats in the way of quick dispatch. Not long since he had a message transmitted to Chicago with two relay points, one at Wheeling, W. Va., and the other at Newark, Ohio. The message, containing one hundred and seven words, was sent from Camden Station office at 11:30 A. M., and the answer to it received for by the vice-president's secretary at 11:39—just nine minutes later. This is considered very good time by telegraphers.

THE OPERATOR is a welcome visitor here, and is read with interest by all. Hoping these lines will be appreciated by some of your readers, I am

Yours, etc., K.

A Reminiscence of Old 11 Broad Street Office.

TRENTON, N. J., Dec. 3d, 1875.

EDITOR OF THE OPERATOR:

It is not very many years ago since we worked for the old Franklin Telegraph Co., at 11 Broad Street, New York. We have counted thirty-eight very good operators hard at work in the old basement. There was scarcely a poor copy sent from that office, and this was the time when the old Franklin did what might have been called in those days an "immense business." On entering this dingy looking office we noticed Tom Kennedy on the receiving, and George Baker on the sending side of the Philadelphia Duplex. Walt Leaming was glad to see us, and said we might work the "Fx" city wire for that day, reminding us that it was an "easy" wire, and termed it a "soft thing." We sat down, and DeMoll, at "Fx," commenced pounding away for dear life. In about twenty minutes we were anxious to go home, finding it extremely warm, and DeMoll entirely too familiar. We squeezed through that day, and remained awake all that night thinking of how little we knew of the telegraph. We tried the same wire the next day. It went smoothly, and DeMoll was not quite so familiar. He had an alphabet of his own, and gave us the characters in about two weeks after. Although we had plenty to do in this office, we never have had the pleasure of meeting such a

good natured, jovial set of operators and managers. There was no red tape; no proud and haughty men dictated; managers, chiefs, and operators were all on an equal footing. Operators were allowed to use their own judgment and discretion in all matters appertaining to messages, etc., and the business was handled with wonderful promptness in consequence. All those thirty-eight men took a delight in pleasing the managers and chiefs, and *vice versa*. Jerry Case, that renowned clerk, comes in for a share of this, so does Cashier Ford. Paul Bossett, Bob Edwards, Jesse Bunnell, Tom Curry, and others we have named, were all there at that time. Where are they now? Scattered to the four winds.

We are not exaggerating when we say that no telegraph office in New York or any other large city has, or ever will have, as fine a class of operators as 11 Broad Street contained during the time of which we speak. They were skilled, they were intelligent, they all made beautiful copies, and were proud of each other. 11 Broad is no more. Mowrey Smith and Geo. Baker are the only two men left.

MILLS.

A Young Lady Going into Other Business.

RHINEBECK, N. Y., December, 1875.

DEAR OPERATOR:

Did you, or any one else, ever hear from this town before? I think I hear you say "Guess not." "Vell, shust so sure as anydings," Rhinebeck exists, lives, and moves, and has a being. Well, at this time of the year, I will let you draw your own conclusions. (Now, *isn't* that liberal?) This village is trying hard to support two telegraph offices, or, *vice versa*. The great question here is which it is. The W. U. Co., is represented by our congenial friend, Miss Kittie Cummings, and I assure you she is just the kind of a person to keep business on the jump. Besides the W. U. Company's line, she also keeps an eye on the Rhinebeck and Conn. R. R. line, which furnishes the W. U. quite an amount of business, as they have direct communication with Rondout and Kingston, N. Y., by cable across the river at this point. So, with both lines to look after, you can see that she is kept busy most of the time. Gossip says that "K." intends to try the "duplex" system shortly, but then, one can't always believe what is rumored in these small towns. I think the report has no foundation in fact, at least, I hope not. How in the world would your humble correspondent ever get off to play ball, or—oh, no, "K." don't.

The A. and P. office is in charge of Mr. F. C. Mason, who, between office work and outside labor, is kept just busy enough to keep him out of mischief.

I must not forget to mention our friend Pearson, of "P K" office. He is a right good fellow.

But, perhaps, I am crowding your more able correspondents, so will close now. More anon, if agreeable.

Yours, ANTO.

NEW ORLEANS, LA., Dec. 7, 1875.

MR. EDITOR:

In your issue of December 1st there appears an article entitled "A Romance of the Rail," signed "Uno." This same story has been going the rounds of the southern papers, they giving the credit of it, if I remember correctly, to the *Marquette Journal*. The only difference between the two is, our copy reads a "Drummer," yours reads a "Telegrapher," and the copy we have don't give the rhyme. It hardly seems the correct thing, to my mind, for you to publish a piece of that kind as an original "composition," when the only originality about it is the "doctoring."

MANY SUBS.

We regret that we were imposed upon, and have written our correspondent on the subject.—ED.

Christmas Day—Dull Business in the Garden City—Changes and Resignations.

CHICAGO, Dec. 25th, 1875.

TO THE EDITOR OF THE OPERATOR:

The eventful day, Xmas, is upon us, and a beautiful morning it is—as mild and as spring-like in appearance as if that ever-welcome season were at hand. Those that are on duty in the office come with bright countenances and cheerful greetings of "Merry Kristmas." On every wire one receives a cheerful greeting of "Gm," accompanied by the old time phrase.

In consequence of the dull condition of business, Messrs. Henderson, Carroll, Everham, and Childs were assigned to regular extra duty on the night force, while Messrs. Hazelton, Grey, Null, and Jack Riley were taken off the regular extra night roll. The former has accepted a position, days, with the A. and P. Co., in this city. The other three are subbing for the regular men. Mr. Rowan, of the A. and P. Co. main office has resigned. Mr. J. M. Wright, of Toledo, Ohio, has accepted a position with the same company and the same office.

Mr. Cuthbert, who has been ill, has so far recovered as to be able to resume duty on Thursday last. Mr. Amos L. Avery has gone east on receipt of intelligence of the death of a relative. Mr. Long "Aj," is absent on the sick list, and unable to resume duty. Mr. Harry Austin is also on the sick roll at Mauston, Wis. Mr. Ratta, of the book-keepers' force, has resigned to engage in other business.

Business has been exceedingly dull lately for the first hour or two in the morning, and again about three P. M. It begins to fall off so that the extra men are hardly able to make full time. Toward eleven A. M. a full force of willing hands is in requisition, and the regular night men and all the extra force are needed, armed with a pen on one ear and a pencil on the other, to clear the files and prevent delay. No doubt the fact of the holidays being upon us, and the near approach of the reduction epoch, makes them the more willing and energetic. Whether the ambition and enthusiasm now manifested will hold out after the reduction takes place remains to be seen.

We received a visit from our old friend Charlie Fortier, of the Board of Trade Telegraph Company, Milwaukee, and Mr. Allan Knapp of the same company, this morning. Mr. F. is looking remarkably well. Milwaukee breezes seem to agree with him.

WONDERER.

Toronto Dominion Telegraph Office.

TORONTO, Dec. 18th, 1875.

EDITOR OF THE OPERATOR:

When it is taken into consideration that there has never been a letter in the OPERATOR from this office, I think you will pardon me for intruding on your valuable space. I am not gifted as a writer, but will do the best I can.

Our office is situated on the corners of Church, Wellington, and Front streets. In the basement we find Mr. Munsie managing the store department. On the first floor is the receiving-room, under the direct management of Mr. L. M. McFarlane, late manager of the London, Ontario, office. On the second floor are the offices of Mr. Swinyard, General Manager. Mr. Roper, who is soon to assume the duties of secretary, *vice* Mr. J. C. Small, resigned, and Mr. Hugh Neilson, Northwestern Superintendent and Electrician. Here we also find Mr. J. L. Kerr, in the capacity of private secretary to Mr. Neilson. We pass on to the third floor, and here we find the operating-room under the management of Mr. S. E. Gibbs, who is ably assisted by Mr. P. W. Snider. Mr. A. J. Pattison is night chief.

We have a staff of sixteen operators. Commencing at the east end of the room, we give their names in order:

Messrs. Pingle, "Pi," and Chipman, "C," working the Montreal duplex. Walter Stratton, "Ws," runs the Buffalo wire. Ws says he can send 100 messages (averaging ten words in the body) in an hour. A. C. Terry, "O," is General Manager and Superintendent of the Kingston wire. W. D. Chaffey, "B," slings lightning to "P," in Ottawa, on 3 east. Behind "B" sits Georgie Carlisle, "H," running No. 3 west, Jim Wilson's wire, who is at "Op," now that the House is in session. W. S. Manners, "Me," our awfully good boy, pushes biz at London and Detroit. By his side sits R. E. Cuppage, "S," on 2 west. Next is Alex Bennett, "A," running Nos. 1 and 2, T. G. and B. On the other side of this desk are J. H. Neilson, "N," and C. Knapp, "U," working 1 and 2 north.

Arrivals this last four months: M. G. Chipman, A. and P., Buffalo; W. S. Manners, W. U., Chicago; W. D. Chaffey, Peterboro, Ont.; R. E. Cuppage, M. T. Co., Detroit, and A. C. Terry, M. T. Co., Montreal.

Bull market very steady and unchanged. "McChem" for "Mitchell," but that's quite natural, ain't it, "Em?" "L. A. Fromberz" for "Lafromboise"; and "One barrel of bottled ale," for "One barrel of boiled oil" ain't bad. More anon.

Yours, muchly, DIRTYFOOT.

Proposed Electrical Society at Dubuque—What one of the Men Knows about Telegraphy.

DUBUQUE, IOWA, Dec. 11th, 1875.

TO THE EDITOR OF THE OPERATOR:

It has been some time since you heard from us, but yet we thought of you just the same. I was in hopes that some of the others here would write if only to let you know that we were well, and hoped you were the same, but it seems they are rather bashful. Well, this is a poor district for news. It's a very healthy place, nobody dies. Good place to work, nobody quits; so now what is there left to encourage a man?

Mr. E. P. Lyman, Superintendent of telegraphy, the C. D. and M. R. R., this city, went east a couple of months ago, and after an absence of a week returned with a bride. I tell you what it is, Mr. Editor, it makes a fellow feel awful lonesome and homesick to see that—not that I envy any one the happiness, but because there seems to be no avenue open "to go and do likewise."

There has been some talk of organizing an electrical society here. I believe there are some twelve or fifteen names on the list. If we have anything of the kind here, the main body, of which this is to be an auxiliary, will have to look to their laurels.

Mr. Sholes, our manager, has quite an extensive library in the office, consisting principally of works on electricity. All hands in the office have free access, and take advantage of it. I have been studying them some, and find they contain a great deal more than I can master! I believe, however, I can take down a pocket relay and put it up again, provided I didn't lose half the screws in the attempt. I have found a good way to get the best of a "back stroke" of an instrument, though, and if any of your readers get bothered in that way, tell them to turn the instrument bottom side up!

Does any of your readers know where John Fleming is? His uncle, A. W. Fleming, would like to know John's present address. Please have them answer through your paper.

E. P. Cronen, formerly operator here, is home on a visit to his folks and former companions. I'm going to ask him for a subscription for THE OPERATOR.

Those visiting cards are immense. Just the thing

for New Year's calls. Came in the nick of time, too. I expect everybody will be asking me, on January 2d, where I got those elegant cards; and I'll hand them a copy of THE OPERATOR, and say, "Give me a \$1.25, and I will get you some just like them."

I see that a great many of the boys are limbering up, preparing for Centennial work. Now, as it takes two to make a bargain, who is going to take all this fast work? The fever seems to be raging all over. It used to be fun to work with the grangers, but now since this new disease has broken out, there is no rest, ease, or fun. Every one seems to have an idea that they are going to Philadelphia, and why shouldn't they? Every convention of every kind the past year has "adjourned to meet in Philadelphia" during the heat of the expose.

Let us hope there will be no grasshopper plague or flood next summer, or us poor knights of manifold will be wiggled out of existence, cause we will have to wiggle if we strive to keep up with the "Centennial senders." That's all now. C.

The Belleville, Ont., Office—Montreal Telegraph Office.

BELLEVILLE, ONT., Dec. 20th, 1875.

MR. EDITOR:

Since the close of navigation we have more spare time than usual, till then business was lively. Our staff consists of Manager Thompson, who signs "M," two operators, W. R. Pretty and A. J. Godard, a book-keeper, two messengers, and a line repairer. We scoop in press for two dailies, and get a "bug" on Kingston occasionally, the latest one being on "W" who received Hy G. Gill and Co., for Hy G. Gillespie. We were honored by visits from the distinguished "E" and "P," of Kingston, and "C," of Cohourg, last season, all good men. The "world renowned" Jack Mullen, "Ch," of Toronto, holds up No. 10 west. One man plays telegraph in the back of Reynolds' book-store, on the Dominion "draw a line." THE OPERATOR comes to hand like the end of the month, ever welcome.

Yours, OOFY AND GOOFY.

A Chance for Somebody.

ATLANTA, GA., December, 1875.

EDITOR OPERATOR:

You have not heard my horn blow for sometime, and I thought I would inflict something on your time and patience. In view of the probable passage of the postal telegraph bill, I offer for sale the following valuable property:

REGISTERS—Mr. Aron S. Oldfield is the champion register. He has it all in his head. What he don't know about telegraphing would make a very large book.

COMBINATION SETS—Jim Stevens is a combination of mind and matter; he's a hefty boy.

DIAL INSTRUMENTS—Oily Camp, the "Pride of the Atlanta office," is a "dial" instrument, and never forgets eleven o'clock lunch.

MAIN LINE SOUNDERS—Bill Benton, recently in charge of the S. and A. Tel. Co., was blessed with another girl on the 27th inst. He says she's a main line sounder. It's unfortunate for Bill that the queen is a four time loser. He has four sweet hearts for coming telegraphers.

PLUG CUT OUTS—We have a fine variety of plugs, among them are Holcomb, Jim Norris, Maddox, McCarty, Winter, Bob Alsten, Charley Witt, Cox, and many others. All these I offer for sale to the highest bidder, and the man that buys any of them will be sold.

In this connection I would quote in the words of the poet, I don't know his name, but he said

"How dear to my heart is the fond recollection,
Of the days that are past long ago, long ago,
When the W. U. T. had made no reduction,
And I signed my name for a hundred or more."

QUANDAM.

The Pittsburg Day Force—Reduction.

PITTSBURG, PA., Dec. 21st, 1875.

EDITOR OPERATOR:

Looking through your valuable journal I see nothing dated from Pittsburg. So thinking a few words would perhaps be acceptable, I will endeavor to give you the news in "G" office.

We have quite a formidable force here. First comes Mr. Gilson, manager; next, Mr. Fleming, chief operator, and assistants Messrs. Markle and Williams. Charley McConnell "Cn" holds Joe Bradley down on the Philadelphia wire. Vic Muse "Mu" is wearing his frame away on the New York circuit. Dode Moreland, "De," is kept employed on the Indianapolis and St. Louis circuit. His voice can be heard at almost any time soaring around the room, "Answer on No. 3." Mell Munson, "Mo," runs the city wire when he is not flirting with the girls at the music store across the street. Joe Kerby, "Jo," works the Harrisburg wire. Billy Maize, "Q," works the Baltimore and Washington circuit. Loy McMullen, "Z," "stings 'em q" to Chicago. Jim Kerr, "K," works Columbus, and takes the day report. Jim Coulter, "Co," works Cleveland, while Rees Lloyd, "N," holds things level on the Cincinnati circuit. On the oil wires you will find Sam Duncan, "D," Charley Stough, "S," and Billy Byrnes, "By." Jimmy Fisher, "J," works the N. Y. branch wire. Tommy Egan, "A," and Charley Moreland, "Cm," preside over our way wires, while "Judge" Palmer, "Je," "does" Wheeling. This constitutes our day force; of the night force I will speak in my next.

When the news first reached us of the proposed reduction of salaries, to take effect on the 1st of January, groups of three or four of the boys could be seen here and there looking sad and miserable, "as though they did not have a friend in the world," discussing the probability of starving to death this winter. But now they seem to be resigned to their fate, and scarcely a murmur is to be heard.

Billy Maize has just returned from a flying trip to his home in Huntingdon County, where he says doughnuts and mince pie reigns supreme.

I think you will have some new subscribers from this place soon, as the boys seem to be working quite lively for your interests. I will not impose upon good nature by writing any more at present.

73 from the boys, IXL.

The Reduction on the Pacific Slope.

SACRAMENTO, CAL., Dec. 13th, 1875.

DEAR OPERATOR:

The news of the reduction of twenty five per cent. was received here with great indignation, and the excitement up to last night was intense. When it was officially announced that it was to be five per cent. it relieved us greatly, although we feel pretty sour over it. Since the meeting of the Legislature everything has been lively, and we have inaugurated our duplex between here and San Francisco. George Ellery and Charlie Shearer do the honors at the State Capitol. In the main office we have John Leatch as chief, and Lieutenant Egan assistant chief. Ben Shearer and Ed Fleming work the Ka Klux with "St." Jackson on the "Stocks," Egan on "Overland," Miss Cole and Miss Coates do the heavy work on the side lines, and E. W. Emery (Baby Em) is night chief.

A message passed through here to "St." ordering a "baker," but "for ways that are dark," etc., it got here "barber." They accordingly sent a dilapidated "Nig" up the country, and the company are now looking for a man to pay the nigger traveling expenses. "Fargo's bank" is the latest for "Farmers' bank." This is on one of the ladies. More anon.

Yours, WILDBILL.

Grand Central Depot Signal System.

Three great railroads have their termini in the Grand Central Depot, located on 121 Street, in New York city. With the exception of the interval between 1:10 and 1:40 in the morning, and of fifty minutes at noon, no period of fifteen minutes elapses in which more train does not depart or arrive on the Harlem, the Hudson River, or the New York, Hartford, and New Haven road. One hundred and eighteen regular, and from ten to fifteen extra trains daily pass in one direction or the other over the tracks on the underground road between 53d Street and Harlem Square, a distance of nearly four and a half miles. Barely two minutes sometimes intervenes between the departure of one train and the incoming of another, and three trains often start at intervals of five minutes apart.

It is obvious that, in order to prevent confusion and accident, the movements of each and every one of these trains, while traveling between the points named, must be governed with absolute certainty. Add to this that crowd after crowd of passengers must be admitted from the reception-room to the waiting cars at exactly the proper time, and the checking of their baggage must be stopped in time to insure its dispatch by the proper trains; and the reader will have formed some faint idea of the perfect system which must exist for the management of the machinery of the great dépôt and its approaches.

Located far up on the north wall of the dépôt, the view from its broad window extending over the intricate network of rails into which the various tracks diverge, is a small cabin. On the wall hang signal indicators and bells, time-tables, and a huge clock. On the table before the single occupant are a telegraph instrument, a record book, and three rows of ivory buttons, twenty in all. This is the dispatcher's office, and here, by pressing the buttons or manipulating the telegraph key, he controls the movement of every train going or coming, the buttons, though simple electric bells, governing everything near and about the depot, the key transmitting instructions to far-off points. By way of illustration, we suppose that one train is to start at 4:30, and that another will arrive at 4:31 o'clock. It is now just 4:10, the passengers are congregated in the waiting-room, the cars are in place, and the engine, with steam up, is standing outside not yet attached. The dispatcher touches a button, the sound of a bell is heard, the heavy doors of the waiting room fly open, and the passengers crowd upon the cars. Fifteen minutes elapses; the operator presses another button, a gong strikes in the baggage room, and the checking is stopped. Belated individuals who wish to depart by that train must go *minus* their baggage. Now, the operator watches the clock closely; three minutes pass, and then a sharp peal rings out from a bell close beside him. The minute hand points to 4:28, and the incoming train has reached 64th Street and is signaling its own approach. The sound continues for half a minute, then stops; the train is at 55th Street, and the finger of the dispatcher at once presses another button. If we were on the arriving locomotive we would see a green disk before us, or at night the flash of a green light, meaning that everything is ready for the flying switch just outside the depot, by which the engine is to clear itself from the train, the cars entering the depot by their own momentum. Now it is 4:29; down goes another button; a bell on a post beside the locomotive waiting outside rings for the engineer to back in and couple on. Hardly ten seconds elapse before a sharp "ting" calls the operator's attention to the fact that the pointer arm of the indicator on the wall has swung over from "clear" to "block." The arriving train is on the 54th Street crossing. The clock says 4:30; again a button is pressed, the doors of the waiting-room are slammed shut, there is a few seconds' delay for the tardy ones on the platforms to board the cars, and then the train moves slowly out of the depot. The indicator pointer still shows "block," and if the outgoing train continues its course a disastrous meeting on the crossing may result. The dispatcher remains passive, however, for he knows that the signal between that train and the crossing is normally at "danger," and that the engineer will certainly come to a stop and wait until the red disk is turned. The delay is but for a second, for the indicator bell almost instantly sounds again, the arm swings over to "clear," and the proper button is immediately touched. A distant cloud of steam can be seen for a moment, and the outgoing train is off again. Pressing another button the operator restores the danger signal. The arriving train now rushes in, its passengers disembark, and at the sound of the bell from the dispatcher, a locomotive kept for the

purpose couples on and drags the empty cars out of the depot.

We have accounted for twenty-one minutes during which one train has left and one arrived; the reader may imagine the celerity and certainty of the work when we add that, within the fifteen minutes which we recently spent in the dispatcher's cabin, three trains on three different roads were started and three received, all at different times and without the slightest confusion.—*Scientific American*.

PERSONAL.

MR. F. C. MASON, manager of the A. and P. at Rhinebeck, has made an improvement in local batteries, of which the *Rhinebeck Gazette* flatteringly. The battery is said to do the work of an old one four times its size, and to run for three months without any care whatever. We wish Mr. Mason success.

MR. E. W. EMERY, Sacramento, Cal., was the first to claim an American Silver Watch as premium for forty yearly subscribers. The watch was forwarded by mail, registered, all expenses of mailing etc., paid by us. The next largest club yet completed is by Mr. Jesse R. Mills, Trenton, N. J., twenty-five yearly subscribers, a giant sander, Morse key, and one year's subscription to THE OPERATOR.

MR. J. H. NICHOLS, manager of the W. U. at Cheyenne, Wyo., has resigned his position to engage in mercantile business, and Mr. A. C. Snyder has been appointed in his place. The *Cheyenne Daily Leader* speaks very highly of Mr. Snyder as a man of business and a gentleman.

CHANGES ON THE P. R. AND P., PHILADELPHIA.—H. M. Griffiths from St. Elmo Hotel to main office, *vice* Taylor, resigned. Albert Eugene from 3936 Market Street to St. Elmo Hotel, *vice* Griffiths, transferred. C. E. Dennis book-keeper at main office to 3936 Market Street, *vice* Eugene, transferred.

MR. WELLER, whose front name is Lew, is with us again. Mr. W. has, during the past summer, been engaged as night break-man at Rondout, but notwithstanding this fact he still wears the old placid smile. Mr. Weller is the best-looking man in the office, not excepting Jesse Stewart.

EVERYBODY was on the tip-toe of expectation last week when it was announced that Mr. Weller and his baby were to visit the W. U. operating-room, but when Saturday arrived, and no baby had made its appearance, the operators wended their way homeward looking extremely disappointed.

MR. GEO. E. RAINSFORD, operator at Keyser, W. Va., has resigned, and accepted a position with the Cumberland and Penn. R. R., as assistant master of transportation. Night operator R. G. Davidson has been appointed to fill the vacancy, and W. A. Irwin takes Davidson's place.

MR. CHAS. COTTRELL, well known to the profession throughout the country as a prominent telegrapher and a perfect gentleman, arrived from England in the City of Richmond on Saturday, Dec. 11th, in fine health and spirits. He left for Galveston Dec. 17th.

MR. MURTAGH, late steward of the W. U. Lunch, has been superseded by Mr. Dennis, of the Superintendent's office. Mr. D's past experience in the restaurant biz will no doubt effect quite a change for the better in the management of the lunch.

MR. JOE ANGELL, who is well known to the old Erie operators, was visiting the Western Union main office in this city recently, he is now Superintendent of Telegraph on the Albany and Susquehanna R. R.

ARRANGEMENTS for the telegraphers' ball, to take place on January 21st, are being rapidly perfected, and the boys are determined to make a fine success of it this year, regardless of the reduction of salaries.

P. H. KEARNEY, an "old timer," has resigned as manager United States Military Telegraph office, Prescott, Arizona, and goes into other business. C. M. Clark has been appointed to fill the vacancy.

W. H. STORY has been promoted from assistant, Maricopa Wells, to manager, Camp Grant, Arizona, repeating office, the present eastern terminal station of the United States Military Telegraph.

MR. C. H. DAVIS, late of the 12 to 9 force, has joined the regular night force at "197," and now "hoops 'em up" on the Chicago duplex, *vice* Merrill, transferred to the cable department.

MR. G. D. MERRILL, one of the Chicago Duplex flyers, has been transferred to the Ross vacancy in the cable room. "Gib" will be a brilliant acquisition to that department.

MR. GEO. E. HENMAN has been placed in charge of the Cuba cable string, nights. George is one of the "old School," and stood out three years on the last strike.

FRANK ROSS has resigned from the cable service at the Western Union main office, N. Y., and is, we understand, appointed night chief at Columbus, Ohio.

The time made by the boys in the morning at the Western Union office to escape the 12 to 9 trick, throws the performance of the Keeley Motor or Edison's new force completely in the shade.

MR. W. C. PEARSE has been transferred from the Albany quadruplex to the Indianapolis circuit at 195 Broadway.

The old Erie operators are in luck. There is Frank Cox whose bright little daughter has the most winsome face in the world.

F. W. SABOLD, agent and operator Alexandria Junction, has been transferred to Washington Dépôt, as operator, *vice* Wright resigned.

MANY of the high livers of "197" are training themselves to pull through on one lunch ticket a month after January 1st.

W. C. BARDEN, Tuscon, Arizona, manages the office, takes the weather, sends "signs," and keeps an "Arizona blanket."

GUS A. OCHUS, late of Lake City and Jacksonville, Fla., is manager at Maricopa Wells, Arizona, repeating office.

"JACK" RILEY, formerly one of the gay boys of Gotham, is doing some of his fine work for the W. U. in Chicago.

GEO. W. ELLERY has been appointed Manager State Capitol office, Sacramento, *vice* Robert Leach, resigned.

It is said that a small boy in the enveloping department at "197," makes the finest press copy in the building.

FRED RECTOR is back again at the main office, on the 12 to 9 trick. He looks in good trim after his vacation.

H. O. STILTZ, Camden Station, Baltimore, who was suddenly taken sick a month ago, has again resumed duty.

FRED OWEN is back with us again at the main office, looking as bright as a May morning.

It is understood that Mr. George Cumming and his coat will attend the Telegraphers' Ball.

C. H. H. COTTRELL passed through this city recently, on his way to Galveston, Texas.

J. D. FLYNN is manager of the B. and O. office at Wheeling, W. Va. F. does it well, too.

W. T. BLYTHE is chief operator and manager U. S. Military Telegraph at San Diego, Cal.

W. B. SCATTERGOOD manages the B. and O. and W. U. office at Parkersburg, W. Va.

It is rumored that the 12 to 9 trick is to be abolished. What next?

WHAT's in a name again. Mr. E. B. Trout is an operator at Blandon, Pa.

ISAAC R. Birt is manager U. S. Military Telegraph, Fort Clark, Texas.

THOMAS FINN, JR., is manager Central Hotel office Decatur, Ill.

ORVILLE K. TOMPKINS is manager at Fort Yuma, Arizona.

It is said that Chick is going in the navy with Fox. Mr. C. F. BROWN is at Little Falls, N. Y.

A Wail of Anguish from one of the Ladies.

It's mad, me is, kos that Editor man didn't gone and put my name in the HOPERATOR, me makes bootiful copies, too, so me does.

WEBSTER'S UNABRIDGED ILLUSTRATED.—"Viewed as a whole, we are confident that no other living language has a dictionary which so fully and faithfully sets forth its present condition as this last edition of Webster does that of our written and spoken English tongue."—*Harper's Magazine*.

BIRTHS.

MONDAY, December 13th, to G. V. B. Frost, Inspector, American District Telegraph Company, a boy. 11 pounds.

To Augustus Justice, line repairer, Trenton, N. J., a son. 12 pounds. Gus has named the boy after William Orton.

Send for Catalogue and Price List.

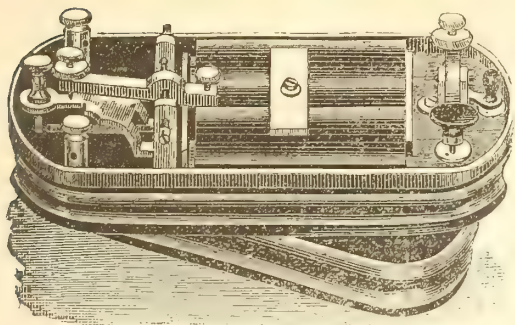
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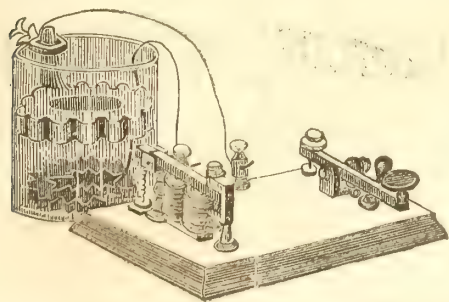
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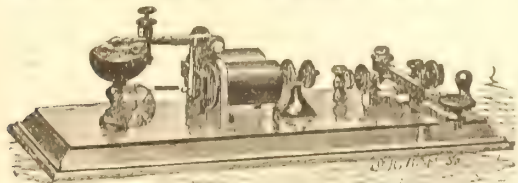
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of trains, blowing of whistles, etc., make reading by sound
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equalled*, guaranteeing them to give a louder and clearer sound,
with less Battery, than any in the market. Price, \$7.



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They are complete Railroad outfits when furnished in black
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We send it by mail. Say where you read
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Box 2,044.

\$11.50 AVERAGED PER DAY.

FULTON, Mo., Dec. 14th, 1874.

Messrs. W. F. & JOHN BARNES, Rockford, Ill.—Gentlemen:
I sawed 110 frets for balustrade for portico, and 15 brackets, in
first two days' running. Every one who has witnessed the
working of the Saw, has pronounced it the most useful ma-
chine ever invented. I have been working from twelve to six-
teen men, and have done all my shop work (scroll sawing) on
your machine, running it daily since I purchased it, and have
paid nothing for repairs, except for saws, which amount was
comparatively small. Three weeks since I purchased some
imported woods and some nice designs, and turned my atten-
tion to fret work. I have averaged per day, since that time,
\$11.50. I know of no occupation as pleasant and profitable for
a mechanic to spend his winter days as at the above. Your
machine runs so lightly and easily that it will not tire the
most delicate man after a little practice; in fact, I consider
your machine indispensable to any carpenter, however small
his business is, as he can introduce the little machine to his
scrap pile, and make enough brackets in one week to pay for
his machine. I consider my machine just as essential in my
shop as a set of bench planes.

Very truly,

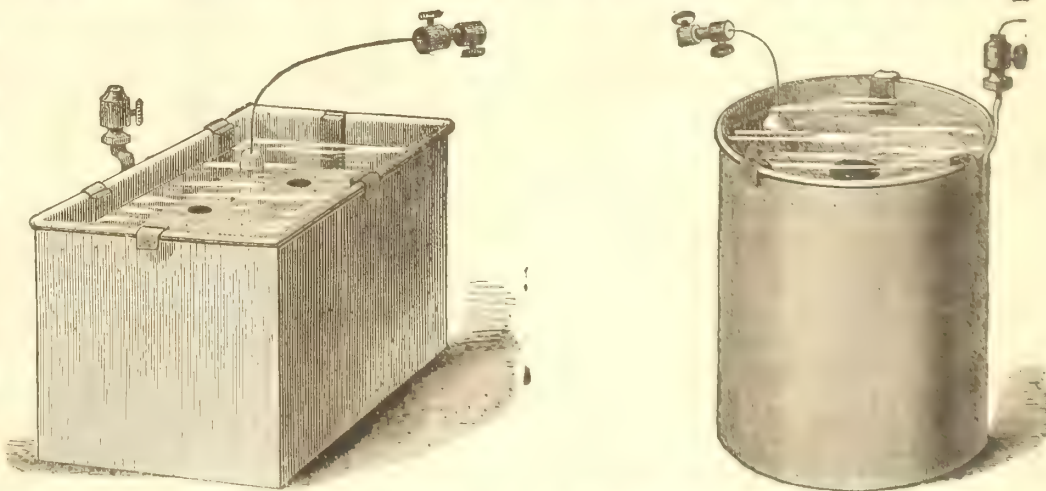
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several telegraph lines, and has proved specially adapted for Electric Railroad Signaling, Automatic Signaling, Reporting,
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PASADENA, CALIF., N. Y., April 10, 1884.

EDWIN EAGLES, Pasadena, Cal.—I have been very much interested in testing up your Eagle Metallic Battery, and after two
years of trial and observation have come to the conclusion that it is the best for the purposes for which it was presented.
It is constant electric motive force, and equally low resistance, together with great economy, makes it as a constant
battery at the head of the list.

I could not be without the Eagle Battery.

GEORGE LITTLE,
Consulting Electrical Engineer, Pasadena, California.

The OPERATOR

A JOURNAL OF SCIENTIFIC TELEGRAPHY.

VOL. IV.

NEW YORK, JANUARY 15, 1876.

No. 10

THE OPERATOR.

PUBLISHED ON THE 1ST AND 15TH OF EACH MONTH,
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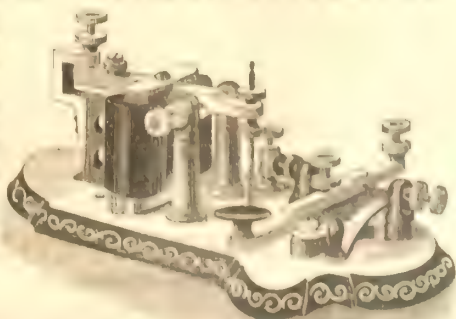
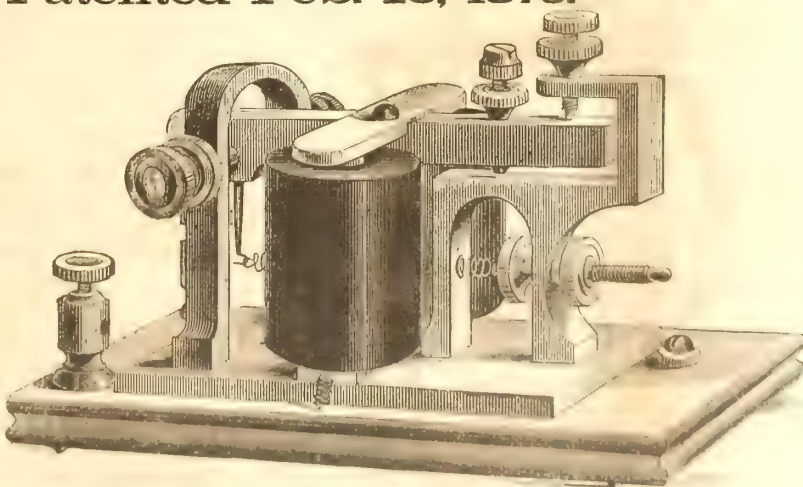
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The Operator,

A JOURNAL OF
SCIENTIFIC TELEGRAPHY.

PUBLISHED BY
WILLIAMS & JOHNSTON.

January 15th, 1876.

Volume IV.

Whole No. 47.

ORIGINAL ARTICLES.

Stopping a Runaway.

BY MELAS.

I had been working at "D. Junc.," on the — R. R. only a few months when the incident I propose relating occurred:

The road ran north and south; its business was rapidly increasing, and at that time quite a number of trains passed over it daily. For the transaction of railroad business and reporting trains, we used two wires, and in the summer season I had enough to keep me fairly busy.

It was a close, sultry afternoon in the month of August. I had just got "cleared up," and was leaning back in my chair near the open window trying to extract from the summer breeze a breath of cool air, when the door opened, and Luke Davis, one of the oldest engineers of the road, entered.

"How do, Hudson," he said, "anything for me to-day?"

"Good afternoon, Davis," I replied; "yes, here are your orders," handing him the papers as I spoke. He took them and turned to go. As he opened the door there was a rush of wheels, and like a flash of light the huge freight engine, which he had left just above the station in the care of the fireman, flew past the station and down the track!

I sprang to the door, and as I reached it the fireman staggered along the platform to where Davis stood. He was covered with dust and ashes, his clothing torn, and the blood streaming from a wound in his head. He said that while he was cleaning and oiling the engine he heard a noise as of something coming down the track, and turned his head just in time to see a heavily-loaded freight car, which had broken away from the shifter in the freight yard dash into the engine with such force as to jerk the throttle valve wide open. He sprang for the step of the cab as the locomotive started, but missed his footing and was thrown headlong to the ground.

By this time the station-master and Superintendent of the road had come up, and in a moment they understood the case. The Superintendent glanced at his watch, and I saw his face turn from its usual warm color ashy pale.

In a calm voice he requested us to enter the office, and shutting and locking the door, he took out his watch again and said, "You all see the exact time?"

It was *twenty-six minutes past three.*

"That engine will reach Grayton at *three forty five*, will it not, Davis?"

The engineer's white face turned a shade paler as if he beheld some ghastly object, as he said in a husky voice, "Yes—yes."

"If it *does* pass Grayton before the up train arrives there, you all understand what the result will be," continued Mr. Cameron. "If you have anything to suggest for Heaven's sake speak quickly!"

We did understand.

The up accommodation train was due at Grayton, a small station twenty miles south, at *three fifty five*,

where it stood on the side track until the down express, which left the Junction at three thirty, passed the station. The main track would be left straight till five minutes before the up train was due, so that the runaway engine would rush by the station, and meeting the up coming train a fearful accident would inevitably occur.

The express came into the station and stopped; the Superintendent went out and ordered it to remain at the Junction, and then came back with the train officials.

Something must be done; but what could arrest a mighty engine rushing along at the rate of a mile a minute?

The Superintendent sat with his face buried in his hands. Davis was wiping his face with his red bandanna, and running his fingers through his gray hair. The station-agent walked the floor with his hands 'clutched together, while the others, pale and anxious, gathered about the table, where I sat with my head throbbing as if it must burst, and the perspiration streaming down my face. I could see the crowded train filled with happy hearts unconsciously drawing nearer and nearer to a horrible death, and we the only ones who knew the impending danger and yet powerless to avert it.

The silence was terrible, and the minutes were flying away rapidly; it was already thirty-five minutes past three, and I was mechanically calling "Gy," when suddenly Davis started forward exclaiming, "I have it! *I have it!*"

The Superintendent lifted his head and quietly asked "What is it?"

"The old gravel pit at Grayton—have the switch turned, and *let the engine go to the d—!*" he shouted excitedly.

Mr. Cameron turned to me; "Call Grayton," he said, and taking a pencil wrote:

"To Miller, Grayton. Turn the switch to the gravel pit track, and leave it so. Runaway engine on the track! Do you understand?"

[Signed] H. CAMERON, Supt."

There was but one wire through Grayton, and I began calling "Gy" on that wire with a will, when suddenly it *opened*.

I turned and looked at Mr. Cameron.

"What's the matter," he asked, "can't you raise him?"

"Wire is open," I replied, hastily examining my key, relay, and switch, but no trouble to be found in the office.

It was terrible; a space of a sixteenth part of an inch under the relay armature dooming people to death!

After a moment of suspense the line closed, and I called again and had just succeeded in getting him when it opened again, but only for a few seconds, after which I sent the message.

A few seconds more of anxious waiting, and then he clicked back: "Don't get it. Repeat—Gy."

Good Heavens!

For a moment it seemed as if I would suffocate; the room grew dark, and the silent expectant forms about me seemed to sway back and forth, but calming myself with an effort I strove to repeat the message plainly.

As I finished I looked at my watch; only *four precious minutes* remained.

A few prefatory dots from "Gy," and then a hurried, "I understand. O K O K M" and all was still save the deep, tense breathing of the men about me, as with a kind of fascination they watched the second hand of the standard clock as it moved swiftly around. The silence was broken by the Superintendent who asked Davis if there were any possibility of the train reaching Grayton *in less than twenty minutes.*

Davis replied that he thought not; it was down

grade, but the possibility was that it might take a few moments *over the twenty.*

It now wanted a quarter of four; the moments wore away, and with every moment the excitement increased. The news having spread, the station was crowded with people eager to learn the result.

Five minutes more and then "D" was called in short, nervous characters, and I answered promptly. After a number of ineffectual attempts to write intelligibly he said: "Engine has run into the pit, smashed up." As I communicated the good news there was a shout of joy, and the Superintendent started the express at once for Grayton, going down on it himself, after thanking us heartily for our work under such trying circumstances.

I was at Grayton a few days after, and Miller told me how he felt. He said as he received the message and looked at the time he realized at once the awful danger. As he left the office to run for the switch he saw far up the track the advancing engine. He reached the switch which, rusty from long disuse, almost defied his struggles to turn it, and it was only by the utmost exertion that he did finally succeed, just as the engine whirled by him in a cloud of dust. It ran into the pit and brought up in the banks of gravel at the lower part of the excavation where it remained fast, but was afterward dug out, having sustained no great damage owing to the yielding nature of the sand.

I have never forgotten that afternoon's work, or the thrilling emotions and terrible excitement and suspense which accompanied it, and hope I shall never experience the like again.

The American District in Albany—Uniform for the Messengers—A Joke on the Reduction.

ALBANY, N. Y., Jan. 8th. 1876.

TO THE EDITOR OF THE OPERATOR:

Legislature has convened, and the regiment of reporters connected therewith make it rather warm at times for the W. U. force here. The bundles they hand in would greatly astonish an uninitiated operator.

The American District system is being established in this city. Their wires are nearly all strung, and will be ready to work in a few days. A large number of our most wealthy citizens have taken hold of the matter, and the prospects now are that the American District in Albany will be a success.

The messengers of the W. U. in this city have recently been uniformed, the same as the New York boys. This is a great improvement both for appearance and convenience. The A. and P. and American District boys are also in full uniform.

The following notice from our manager to the chief was posted on the bulletin board the day before New Year's. "To-morrow being a holiday, the office will be worked with a *reduced force.*" All readily saw the joke.

General Stager must have struck a different class of men from any in this section when he says "Very well satisfied with the change in their phreatic pocket books."

Well, so much for stock jobbing-affairs, at least it has every appearance of being such. I think the unknown poet who wrote the following struck the right nail on the head. He says:

It is a deal less in stocks and bonds
And more in bonds and debts (poverty)
Those who work had more withing hands
To look that would to the superstitious
It men stored up love, cool and warm
And on bond and hand have found (poverty)
It is a deal less in stocks and bonds
And more in bonds and debts (poverty)

The W. U. office at the Capitol and Congress Hall are now open and in charge of W. A. Smith. The A. and P. Capitol office is also open and in charge of Geo. F. Smith.

N. Y. C.

A Pleasant Sociable.

The second annual social of the Morris and Essex Division of the Delaware, Lackawanna and Western R. R. was held at the Warren House, Hackettstown, N. J., Christmas Eve, and was as pleasant a party of telegraphers as ever assembled together on any occasion. Notwithstanding the unfavorable weather, the arrival of every train brought small parties of telegraphers from every direction. By eight o'clock the spacious parlors of the hotel were crowded to overflowing.

Everything had been done by the general manager, F. W. Coolbaugh, and the committee of arrangements, to make things agreeable that it was possible to do. After the introductions, cordial greetings, hand-shaking, etc., was over, Hamlin's celebrated string band, of Newark, N. J., which was engaged for the occasion, gave the signal for the grand march, which was led by Superintendent R. O'Brien, of Scranton, Pa., after which dancing was commenced, and kept up till ten o'clock, when the Bray quartette, consisting of three brothers and a sister, favored us with some choice ballads prepared for this special event. After which the line of march was formed for the dining-room, headed again by Superintendent O'Brien, followed by Manager Coolbaugh and the different committees and guests, with their respective ladies. It may be said to the credit of Messrs. McCracken, our hosts, that their tastes and experience in preparing and setting out a supper can not be surpassed.

After doing full justice to the repast the fair gallants amused themselves by exchanging mottoes with their lady friends, or by telegraphing to one another with their knives and forks, until Toast Master Tinsman arose and announced the first toast of the evening: "Our Second Annual Social," which was responded to by Mr. F. W. Coolbaugh, who reviewed the benefits derived generally from social gatherings of this kind, and sincerely hoped they might be continued each year. He took his seat amid loud applause.

The second toast, "The D. L. and W. R. R. and its Management," was suitably responded to by Superintendent O'Brien. To the next toast, "The Telegraph, its Rise and Progress," Dr. O'Brien was expected to reply, but being unavoidably absent, he had committed his thoughts to paper, and they, together with his regrets, were read by Mr. W. H. Ricker.

Mr. Zubler, of Hoboken, replied to the toast, "Our Telegraph Superintendent," with very complimentary remarks to Mr. O'Brien. I would like to add that Mr. O'Brien not only fills the capacity of an excellent Superintendent, but is a friend to the boys. The next toast, "Our Lady Operators," was responded to by W. H. Ricker, of Newark, who spoke very flatteringly of these fair and more angelic members of the profession, and of their valuable influences on the wires, and how the moral tone of the operators was preserved by their presence, but regretted exceedingly to say that they no sooner became thorough operators than some of the gentlemen discovered their estimable qualities, and relieved the company of their services. His remarks were spicy and elicited loud applause. The last toast, "Our Host and Hostess," was responded to by A. H. Delliker, one of the invited guests. In behalf of Mr. and Mrs. McCracken he extended the party a warm welcome, and wished them many returns of the evening.

Short remarks were also made by Mr. Foley and others, when the Bray quartette again favored us with a few more of their beautiful ballads; retiring amid great applause and showers of bouquets.

It was now twelve o'clock. After wishing each other a Merry Christmas, the cornet gave the signal for dancing, which was kept up until the song

sounded for breakfast. The floor management was ably conducted by J. M. Dalrymple and J. S. Stewart.

After partaking of a hearty breakfast, the majority of the party took the early train for their homes, greatly pleased with the "Second Annual Social," and apparently not in the least fatigued. The ladies sang merrily, and the gents seemed full of life and jollity, while the band kept up the music, and as parties left us from station to station cheer after cheer was given for the success of our Social.

Among those present were noticed Mr. R. O'Brien and Mr. Thomas, of Scranton, Pa., Miss Sue Van Buskirk, of Stroudsburg, Pa., Mr. and Mrs. R. Russell, Jr., S. P. Cooke, W. A. Schenck, A. H. Delliker, Miss Nellie Cooke, and Miss Clara Schenck, of Hackettstown, N. J., Dispatcher F. W. Coolbaugh and sisters, Misses Mollie, Minnie, and Mina, of Hudson City, N. J., Mr. and Mrs. S. T. Bray, Messrs. William, Watson, and Henry Bray and sister, Mrs. Wilson, and Miss Kattie Harrison, of Roseville, N. J., Mr. and Mrs. Gray, of Waterloo, Mr. Wright, and Mr. Nixon and sisters, of Morristown, Mr. and Mrs. Munson, of Madison, Messrs. Ricker, Palmer, and Wiley, of Newark, J. S. Coolbaugh, Jesse S. Stewart, L. B. Foley, and Miss Marley, of New York, Messrs. Dalrymple and Zubler, of Hoboken, Mr. and Mrs. Tinsman, Misses Brown and Cooper, of Paterson, Miss Ada Arbutnot, of Montclair, and many other familiar faces.

Among those who sent regrets and best wishes we might mention our Christian friend Egbert, from Hackettstown, the genial and big-hearted Theo. Grandin, from Stanhope, our ever-jovial Harry Thompson, from Summit, our old stand-by, Reuben Able, of Newark, and a few others.

Hoping I shall be able to give you a still more glowing account of our third annual next Christmas Eve, I remain, Ever yours,

"SATISFIED ONE."

Early-Day Telegraphy in the West.

DUBUQUE, IOWA, December, 1875.

EDITOR OPERATOR:

Thinking that perhaps a few lines on early telegraphy in this city would interest some of your readers, I conceived the idea of giving what little I have picked up:

The first line to this point connecting Peru, Ill., was completed in September, 1848. The operator at Peru was a devoted friend of a belle of this city, and as a special compliment to her he promised that she should be the recipient of the first dispatch sent to Dubuque.

The favor was appreciated, but the lady preferred that, as the compliment was to be of rather a public nature, to divide the honor with other lady friends, and, therefore, requested the gentleman to include them in his message.

The line completed, the following message came flashing over the wire:

Peru, Sept. 15th, 1848.

The compliments of C. S. Oslove to the ladies of the Warren House by H. H. H. "wonderful happy to receive a 'flash' from them."

The following response was returned:

To C. S. Oslove.

The ladies of the Warren House thank Mr. Oslove for his interesting communication; it warmed their cold hearts. They rejoice to know that they have a "spark," in Peru.

Dub. Sept. 16th, 1848.

Since that electric correspondence, over a quarter of a century ago, but little romancing has been done through the medium of electricity, but the important affairs of the nation reach us by thirteen well insulated wires. From a little mining town has sprung a city of 30,000 inhabitants. The crack of the stage driver's whip has been drowned by the whistle of the locomotive.

Chicago can boast of her lakes and swamps, but Dubuque, the queen city of Iowa and the northwest, can smile with sweet indifference. Her brow is shaded by the beautiful bluffs, and her feet kissed by the majestic waters of the Mississippi.

A good many changes have taken place among managers and operators in Dubuque since the time of which I speak. Henry Irwin was the first operator, and it was the opinion of the young ladies of those days that he was, in truth, a lightning fellow. Young and handsome, gay and dashing. He eventually married a Dubuque lady, and is now a prosperous merchant of St. Louis.

Then, I believe, came Hank Mason, but as the records of the business, etc., of those days are gone, I can not dwell long on him. Perhaps some of the "old-timers" can tell where he is and give his history?

Fred C. Swain, well known to the fraternity, was the next manager. He subsequently resigned and sought "Ch." His vacant chair was filled by Fred I. Benson. Those who know Fred won't smile when I say that he filled the chair to overflowing. After serving the company long and faithfully, he resigned and went to Europe, where he spent a year or more traveling. On his return he engaged in the insurance business, and on the lines of the P. and A. being completed to Dubuque, he was appointed manager, which position he filled with great ability up to the consolidation of its lines with the W. U. Mr. R. S. Fowler was appointed manager of this office on the resignation of Mr. Benson. Mr. Fowler filled the position for seven or eight years until death called him away, in July, 1873.

I wish I could command proper language in which to express the goodness of Mr. Fowler. Indeed, none knew him but to love him. Never was there a more kind-hearted man, and in his death we all lost a warm friend. Mr. E. Sholes, our present efficient manager, was appointed manager and superintendent on the death of Mr. Fowler.

This concludes the list of managers. Up to the time of Mr. Fowler's appointment the working force consisted of manager only. Since then Ed. Whiteford, now of "Ch," Ed. Smith, E. P. Lyman, E. Sholes, Thomas Ryan, Charles Stevens, A. H. Cook, now of Montreal, Can., E. L. Cuthbert, now in A. and P., Chicago, F. I. Benson, C. E. Nightingale, Miss Mary Gray, Miss Mabel Couch, and A. Cray have manipulated the key. The last five named persons comprise the present force.

Mr. Benson became part of our force on the consolidation, and subsequently appointed chief operator. Mr. E. Lyman resigned to accept an appointment as Superintendent of Telegraph on the C. D. and M. R. R. two years ago. The company made a good selection. Mr. Lyman has great executive ability, and his kind manner always wins him many friends.

I can not close without speaking of Andy H. Cook. An article in THE OPERATOR a short time ago from Montreal spoke in glowing terms of Andy. Let me tell the Montreal correspondent that Andy is well known to us, and if ever the opportunity comes we shall have him back with us.

I have a kind thought for all the former knights, but Andy is my—and our—pet. Therefore, treat him kindly, and appreciate him while you can.

Some future time, if acceptable, I will give you some more of our surroundings.

C.

A TERRIBLE CONUNDRUM.—Why do plugs calling Port Clinton, Ohio, suggest a verse in the "Wreck of the Hesperus?"

Because, Ho! Ho! the breakers roared.

It was all on Account of a "Bull."

"Chief of Police Jones sat in his leather-cushioned chair yesterday, and deliberated. It isn't very often that the Chief deliberates, but when he does, he goes at it in earnest. He put his number nines on the desk, and took them off again; rolled his fragrant five-center round and round in his delicate mouth, and pressed his fairy fingers against the end of his nose with affectionate thoughtlessness. The cause of the Chief's deliberation lay on the table before him. It was headed, "Western Union Telegraph Company," and below the printed words was a message, very short but very significant. Half an hour before, the message had been handed to the Chief by one of Philadelphia's most distinguished citizens, who protested, on his word as a poet and a statesman, that its contents were as so much Choctaw to him, and that why such a dispatch should be sent to him he could not imagine. The message, which was a firebrand both to the recipient and to the Chief, was as follow:

NEW YORK, December 7.—To General H. H. Bingham, Philadelphia: Meet me at the 12 o'clock train. TWEED.

The dispatch, unfortunately, had not reached Philadelphia until 11:30, and the State House clock struck twelve while a messenger was hastening to deliver it. An hour or more was then lost in astonishment, and it was fully one o'clock before the police knew that the ex-Boss, with his confidence thus betrayed, was probably in the city. It was too late to capture him in the depot, and the escaped convict, on finding that his friend was not on hand in reply to his dispatch, had undoubtedly taken secure quarters, unknown alike to the police and the public.

A tap on a very rusty bell summoned a boy to the inner sanctum of policedom, and the Chief ordered that a messenger should instantly be dispatched for Captain Heins. Meanwhile General Bingham dropped in to inquire what had been done.

"I can't make my plans public," the Chief replied, in answer to the General's questions; "but every point is thoroughly covered, and if Tweed is in this city we'll have him before dark. I am very anxious to lay hands on him myself, for I haven't a man about me I can really trust in a big case like this. How is it about the reward, General? Is that a sure thing?"

The General assured him that it was.

"Then," said the Chief, standing up and striking an attitude, "Tweed is nabbed, and these strong hands shall drag him to a felon's cell before yon sun goes down beyond the muddy Delaware."

The door had hardly closed behind General Bingham before Captain Heins entered, cap in hand, and saluted his chief.

"Heins," the Chief began, "it's nearly a year and a half since you began to search for Charley Ross; a year and a half, and no reward yet. Now, I can put a job in your hands that will show results in less than twenty-four hours."

This statement having been shouted in Heins' ears until it could be heard on the other side of Chestnut Street, the chief detective expressed by his countenance that he understood what had been said. "Then," the Chief continued, "we'll go to work. What I tell you must be as secret as the grave. There's honor to be gained, and stamps. Tweed is in the city!" "Sing you a ditty?" inquired the detective, mistaking the Chief's words. "Oh, no! We all bow to you in that sort of thing, Chief," modestly observed Heins. But when the latter was made to understand, the three blonde hairs on the top of his head bent and swayed in their fruitless endeavor to raise his policeman's cap. But before he could reply, the Chief went on: "There's no time to be lost. Some fool of a patrolman, or more likely, an obscure citizen, may stumble on him, and

then where's our divvy? At 12 o'clock this afternoon the Boss was in the West Philadelphia depot, intending to go to General Bingham's. The General shook him, and now there's no knowing where he is. But he may find his way to Bingham's yet. You must go to the depot, get on his track and follow him. I will go to Bingham's, shadow the house, and take him in if he shows up. But I depend most on you, and—remember!" and the wink was as good as the nod which followed.

Captain Heins' inquiries in the depot disclosed the fact that a very large, tall man, in every way answering to Boss Tweed's description, had arrived in the 12 o'clock train, and, the janitor thought, had taken a Market Street car for the city. Inquiry among the conductors showed that "the large, tall man" had gone to the end of the route, and then disappeared down Front Street, and the "conductor" of the Smith's Island boat had no hesitancy in saying that the supposed convict had gone over with him on his last trip, and had not come back. Captain Heins at once rose twenty-seven degrees in his own estimation. By his detective skill he had found the distinguished fugitive, traced him, and now had him safely caged on a desolate island in the middle of the Delaware. The boat made a quick trip to the island, and the first person that the captain met was the "large, tall man." In his left hand was a gingham umbrella, and in his right a canvas satchel. The detective approached him, and was just screwing his courage to the point of making him a prisoner, when the "large, tall man" walking slowly into the neighboring saloon, stepped behind the counter and deliberately helped himself to "ein," "zwei," "drei," in rapid succession. The satchel was tossed under the counter, the umbrella laid on the shelf, and the tired and dusty Tueton explained to his son, who stood behind the bar, that his mission to Newark to buy lager had been eminently successful. The idea of the beer-swelled Teuton being mistaken for the Boss was so very funny that even the disgusted detective could not help but smile, even while he was warming his hand in his empty pocket. The captain's journey back to headquarters was a slow one, but when he arrived he found the Chief there before him in a paroxysm of rage. Great tufts of hair were scattered over the floor, and the Chief's hands were stained with the dye from his whiskers, which he had vainly tried to pull from their sockets. Always grand in repose, the Chief was magnificent in his anger, and the detective hesitated to approach. At length he mustered courage to whisper, "I had a fine clew, but it fizzled out."

The Chief paused in his rapid march up and down the room, threw himself once more into his chair, and beckoned the detective to his side. "Heins," he began, "you and I are getting as old and worthless as Levy and Callahan, to quote your own words; but if anybody ever hears of this afternoon's work you and I will be the laughing stock of the town. Listen, but what I tell you is never to be whispered to mortal man. Bingham has promised to hush it up on account of some work I got my men to do for him recently, and if you don't squeal we're safe. I went to Bingham's house an hour ago, and there sat Thurlow Weed, and he and Bingham were splitting their sides with laughing. It was Weed that sent the message 'T. Weed, don't you see?' And the damned operator here ran the letters together, and made it Tweed. They're laughing about it yet, but I'll show them they must not keep the Philadelphia police running around all day after a mare's nest. Now, you'd better go back and continue your fruitless search for Charley Ross. There's money in that thing if you only know how to get it out. Captain Heins was at last accounted for, and the joke through his head." *Philadelphia Times.*

[Written for THE OPERATOR.]

Lecture on Electricity.

LATIES UND SCHENDELMANS:

Der uses of dot creat und mysderious elemend vot ish called by der slippery name of elegdrizidy vos much. Id ish used for making some purglars go away when dey coom to shteat some of your new glose vot you shoost puy, und make dem dink dot dey vos stinged mid a bumblebee, und dot der pullets which you shood afidher dem vos aimed so sdraight like dem 'Merican deams vot goas by Tublin to shood der stuffin oud mid dose Irish und English vellars vod dinks dey vos bretty goot of der shood. I bet nine hundred und sevendy dollars dot I cot a leadle poy home who can shood so straid as any deam. He vas got a new air-gun, but I had to dook id away begause he got to making some darged's oud of me, und he cout hit me ofer dimes trying.

Bud I is digressing from my subchect. Elegdrizidy ish also used to got up und gall some bolizmeans vhen a growd of vellars come in by der sloon und gall for drinks und don't bay for dem somedimes. Ain't id so? Somedimes vhen a fire ged's on your house id prings dose hose vellars vod makes some squirt by id, und gifes der fire some drinks do invide it oud.

Id ish also used do sent ledders by my frau vod ish away vhen she ain'd home some more dimes. Why, de udder day dose frau vot I god she delegraph me by der quadrublexion or some udder kind of a comblexon masheen dot she vos got some more bapies vile I vos away by Philadelphy buying dot cast-iron bottomed bants, so dat dose boys uf mine can use me for a darged some more dimes without hurding, und so dem bins vot der vellars around my sloon pud of der shairs vhen I go und sed me down vill ged proke. Don'd id?

Bud as I vos saying, elegdrizidy vos good of ids places. Now, I vos god von of dose new masheens do make elegdrizidy shilde ride drough your insides so quick like lighdning, und I dook dot home of my frau do make herself some more sdrenghs, und I bush dose masheen vod you galls der bisdon indo der goils so as to gife her a good schoeg, und she dook hold of der handles, und vhen I durn on der elegdrizidy she yells like she was set down of dot red hot stove plade! I dink I killed her, und I smashed that masheen, und of I gotta dod man vot dells me do puy him I kig him, so pad vod he gan'd sed dow of a vheck.

Vhen he coomes in I say I vill gife him a fast on de neck vod vill make him dink dot der lighdning vot ish galled elegdrizidy vos on a shilde, und he says, "Don'd shtrike; ve accept dose 'Schilling, Schale.'" I don'd understand me somedings about dot, so I doid him do schilde oud my sloon peety gwick.

My frau vos not ded, she is godding peety now.

Vell, I guess I have life my experiences of elegdrizidy, und I dink dot it vos like dem delfical oberaders an alt fraut.

"Wildfire" speaks of the Sacramento A. and P. force as follows:

C. M. Cogan is the gentlemanly manager W. Wilder, chief operator, Harp Gray, Tom Lee, the man that never breaks, H. C. Marks (heavy trustful man), Bud Lee (a champion heavy weight), L. J. Allen, and Dave Allen compose the efficient force. They are having their office renovated, and shortly it will present a very neat appearance. At the Central Pacific R. R. we have E. A. Roberts, chief operator, Tom Jones, assistant dispatcher, Nims, Harwood, Myrick, Gordon, and Brock, all of operators. At the Sacramento Valley R. R. we have Mr. Johnson, chief operator, and Mr. Galloway, assistant. At the Capital Hill, W. J. Brouder, we have "The Wild Fireman," Mike Nott. His office is 3 feet 3 inches in circumference.

The Operator,

THE ORGAN OF THE

United States and Canadian Telegraph Operators.

W. J. JOHNSTON, - - - Editor.

January 15th, 1876.

TO OPERATORS.

The OPERATOR has now the largest circulation of any telegraph paper published in the United States; but as we are desirous of still increasing it, we offer as an additional inducement to our fifty handsome visiting or addressed cards to each new subscriber for the year. The same offer applies to our club members. The cost of these cards would nearly equal the price of a year's subscription if ordered separately. Subscriptions should in all cases be accompanied by the cash or a Post Office order.

In addition to the above we offer the following prizes for clubs:

For a club of six yearly subscribers we will send one copy free for one year.

For a club of eight yearly subscribers we will give a first-class Inductorium.

For a club of twelve yearly subscribers we will give a first-class Morse Key, Western Union pattern.

For a club of fifteen yearly subscribers we will give a first-class Giant Sounder, or a Learners' set.

For a club of twenty-five yearly subscribers we will give a first-class Morse Key, Giant Sounder, and one year's subscription to THE OPERATOR to the person sending the club.

For a club of fifty yearly subscribers we will give a good substantial American Silver Watch.

For a club of fifty yearly subscribers we will send a Barnes' \$30 Scroll Saw, same as advertised in another column.

Send the names as fast as received, and we will give you credit. They can be added to at any time.

NOTICE.

THE OPERATOR IS REGULARLY ON SALE AT THE POST-OFFICE COUNTER, WESTERN UNION BUILDING, THIS CITY. THE BINDERS CAN ALSO BE OBTAINED AT THE SAME PLACE.

We are reorganizing our agency system, and would be happy to receive the names of any of the fraternity throughout the country willing to act for us.

When requesting a change of address, subscribers will please give their former as well as their present address.

We always stop THE OPERATOR at the expiration of the year, or of the time for which it is paid; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

WHENEVER an operator sees anything in his local paper which he thinks would be interesting to the readers of THE OPERATOR, he will confer a great favor by marking the piece and mailing it to us, P. O. Box 3,332, New York.

Gallant Telegraphers.

It gives us much pleasure to see how many knights of the key have recently presented copies of THE OPERATOR for a year, with fifty of our handsome visiting cards, to lady operators of their acquaintance. It indicates a fraternal spirit which is very commendable, and is, we believe, as neat and acceptable a gift as an operator can make to a lady. It is a continual reminder that she has at least two friends—the gentleman to whose thoughtfulness she is indebted for its visits, and the paper itself. One of the binders, advertised on another page, would make the offering complete.

WHAT THE OPERATORS THINK OF IT.

The correspondence between Superintendent Brown and the editor of this paper, published last issue, occasioned quite a commotion in telegraphic circles. Coming as it did so soon after the announcement of the "Sliding Scale," the universal query was whether the telegraph operators of this country have any rights which the Western Union is bound to respect.

Not only did the operators heartily indorse every word we said, but several of those in high places applauded the action taken, and said that they should have done the same thing under the circumstances, and were glad to see so much pluck still left in the profession. They characterized the action of the Western Union as an outrage.

The number of copies sold in this city was double our usual sales, and still they cry for more, and from all parts of the country the demand for copies of that issue is something enormous. The edition having given out, we are forced to republish the article to-day in our advertising columns.

As a specimen of the letters we have received on the subject, and their name is legion, we give extracts from half-a-dozen, picked at random, and representing the opinions of telegraphers in all parts of the country.

"Your prompt action meets with approval everywhere."

"Rest assured you have the admiration and sympathy of the majority in this vicinity."

"Hope you will be able to treble your circulation through the action of Western Union."

"The correspondence has directed general attention to the paper, and many who never took it before will take it now."

"Everybody here thinks THE OPERATOR is better than it ever was. Don't think you will want for subscribers."

"I admire the latter part of your letter to Mr. Brown, and, as the boys say, 'Bully for you.'"

"The correspondence between you and A. S. B. explains itself, and I admire the style in which you handled it. If the intelligent members of the fraternity can not, or will not, support you and an organ through which they can communicate their thoughts, then I say we are not what telegraphers were ten or fifteen years ago, and I am afraid our best material is leaving the ranks one by one."

And while we are in the extract business permit us to give a couple to show what operators think of the paper itself. These words of praise, which are only a sample of what we receive every day, come to us like gleams of sunshine, and demonstrate that our efforts toward improving the paper are appreciated. Here is the first:

"The more I see of your admirable little paper, the better I like it, and I have concluded I can not do without it. Long may you wave."

"I think your paper is improving very fast, and operators should be proud that they can support such a well-written, lively, and neat journal. I hope THE OPERATOR will live long and prosper."

But the climax is reached when C. E. S. remarks:

"I couldn't do without it. It's to me what hay must be to other animals."

We can not close without heartily thanking our many friends for their very successful efforts in our behalf. If they go on as they are now doing, we do not doubt but that our circulation will touch 10,000 in a very short time. We expect to strike off 5,000 copies on the first of February. This is a great victory for the telegraphers of America, and we congratulate them on their concerted action in this matter.

What is Profit to the Stockholder may be Death to the Operator.

The *Daily Graphic* of Wednesday last gives a full-page cartoon on the subject of the "sliding scale." It represents President Orton switching a train of cars, marked "W. U. T. Co." "Monopoly," from the old track to the new one of 1876, underneath which is seen piled the prostrate forms of the operators, and which leads directly to ruin.

It also gives the following New Year's salutation of the employes of the Western Union Tel. Co.:

"See here, President Orton! You are cutting down salaries while you succeed getting ten per cent dividend from stock that originally cost little or nothing. We don't hurray for that. You don't to switch off your train on to another wire, and make your poor operators who serve us brakemen officiate as telegraph poles under the track, while your magnetic battery is steaming down on us! Shovel some more hydrochloric acid under the boiler, and with your hand on the throttle-valve of the magnet, shout, 'Death to Tramps!'"

Editorially the *Graphic* adds: "That a great corporation like the Western Union, which pays its stockholders nearly eleven per cent. dividends, should resort to the petty economy of cutting down the salaries of its operators, strikes most people as being queer, to say the least. The new movement certainly looks suspicious, although possibly it may be all right."

Telegraphic Tramps.

The swindle perpetrated by a miserable apology for an operator, which a correspondent speaks of in another column, should be a warning to telegraphers everywhere to keep a look out for such fellows, and, if possible, have them promptly handed over to justice. Respectable operators suffer on account of just such men. The public, and sometimes even telegraphers themselves, are too apt to judge the respectable members of the profession harshly on account of the misdoings of these disreputable "beats." And they are all "first-class men," if we are to believe themselves.

Doubtless many of our rural friends have, from the occasional, or perhaps periodical, visits to their little railroad offices, of some poor, dilapidated knight of the key, formed the inference that he is the true representative of the first-class commercial portion of the fraternity, found only in the large cities. They may often be led to believe, and it is probably the prevailing opinion among the majority of operators at way-stations, that to become a first-class telegrapher, it is necessary for the candidate for such honors to sink below the level of common respectability—aye, even Christian decency—and wallow in the mire of vices that beset the path of every inhabitant of a large city. Many who have not had the opportunity of visiting the city enough to form a correct idea of the matter, have been imposed upon by a class of "chronic bums," who have thrown away chances denied to more deserving members of the profession, and adopted the miserable existence of the low-minded impostor, traveling on foot from place to place, pouring into the willing ears of unsuspecting brethren their base fabrications and deceitful misrepresentation, preying upon the generosity of those who have not had a chance to find out their true character. A set of drunken sots, who might better be classed as crawling things of the earth than fit companions for men of intelligence or members of an honorable profession. Men born with more than ordinary talents, gifted with abilities that properly used would have placed them far above those beneath whom they now socially stand, but cursed with an imbecility of mind that rendered them helpless to resist the onslaught of temptation, like treasure-laden ships beached upon the sands of iniquity, they became hopeless wrecks.

Tramps by name and tramps by nature, devoid of all principle, lost to all sense of honor, and with no hope for the future, these once brilliant lights pursue their fruitless journey through life, representing themselves as models of perfection, holding themselves up to the guileless gaze of those whom they know to be ignorant of their true position, as the

representatives of the exponents of a noble art as an art. Surely the telegraphic fraternity has been sufficiently abused by dishonorable traits too often apparent in many of its active members without being dragged down altogether by the tramps of the business. Surely the hundreds of unprincipled people who have invaded its ranks and trampled upon all its rights to honor and respectability as a profession, have sufficiently exposed its good name to the attacks of unjust criticism of ignorant and misinformed minds, without being entirely blotted and erased from the pages of honesty's record by the poor pictures of misery who have become both a disgrace to themselves and to those they seek to represent. But their victories, if such they might be termed, are doomed to be short lived. Poor, helpless imbeciles, they can not survive their own foolishness long; yet while they do exist, as running ulcers in the sight of respectable telegraphers, let them be branded with a simple "N. G.," and treated with the contempt all humans of their stamp richly deserve.

Is this a Result of the Sliding Scale?

The following rather strange epistle was received by a gentleman in New York. It is evidently the work of some one well acquainted with the boys of this section:

RED EYE CORNER, N. M., Dec. 26th, 1875.

DEAR JIM:

We reached our destination about two months ago, but this is the first chance I've had to write. Our quarters are beautifully situated in a most romantic spot just on the edge of a *f-Lowery* prairie. At present we are living in tents, but when the *Keene* blasts replace the gentle zephyrs I s'pose our *Camp* *ell* have to be abandoned for a more solid habitation. I've become quite sentimental, as it were, since my arrival here, and I often *Sink* into a *Brown* study, and my mind wanders back to the old rackets. I had a fine lark here not long ago, but one morn I rose about day-break and discovered *Me-larky'd* *Ris'on* high, and now I often sigh and wonder will that *Larcombe* back. We've got an Irish *Cook* here who rejoices in the sobriquet of Mack, and he's a *Brick*. He's eternally singing rhymes about the *Land-y* loves the best, and by way of a change he gives us "*Brennan on the Moore*" and other *Ballads* occasionally. He's quite a *cha-Rector*. He went out riding with a party of us the other day, and *Cumming* through a piece of woods he saw a pigeon on the limb of a tree. Raising his gun he fired, but the gun *Borst*, nearly knocking him out of the saddle. The pony dashed off, but *Mackeld-on* until the frightened steed was captured, and, strange to say, he wasn't a *Tallcut* or bruised. A big *Horn* of red eye settled his nerves, and you bet it *Warren-ed* him to be more careful in the future. He hasn't found out whether the pigeon's *Benn't* or not. He's got very little hair on his head, which makes him the only *Bald-one* in the gang. He came to me one day and reported having seen twenty *Robinson* one little bush. I quietly reached for my pop, drew myself to my full height, and gave it to him thus: "It's too *t-Hin-man*, if you don't do *Leetivng* the *Harmon-y* of this ranche will be disturbed. He left. *Mack-lar-ed* a few things *Lownging* about the big *Town* and cities, so he says, but he still *Pears* sits in *Parr-suing* the course he adopted while whacking *Callin* the Territories, *Flch* doesn't proclaim much *Eddy-cation*. There's *Mor(e)lonte* among the lower classes in the States than there is about the aristocracy of this place. We had a party *Downier* the other night, and a ful *Lar-gay*er crowd you never struck. You ought *Tobin* here. Well, Jim, write soon and let me know if all the boys are *Weller* not. I haven't *Hard* from there since I left. Tell *Annie* (of the girls) to write *Dely*. You want to laugh and *Graffat* you *Young Welp*? Bye bye, Jim, and remember me. As ever of thee,

JACK MAC D. '78.

Live and Let Live.

[A correspondent send us the following, which, we think, is very suitable in view of recent events.—ED.]

Methinks we should have this engraven,
Where all who are running may read;
Where interest swoops like a raven,
Right eager to pounce and to feed.
For too often does honesty dwindle
In bosoms that fatten on wealth,
While Craft, with unsatisfied spindle,
Sits winding in darkness and stealth.
It is fair we should pay for men's labor
The recompense fairness can give;
But pause ere we trample a neighbor,
For duty says, "Live and let live."

Shame to those who, secure in their thriving,
Yet fain would keep poorer ones down—
Those who like not the crust of the starving
To grow to a loaf like their own.
Shame to those who forever are grasping
At more than one mortal need hold;
Whose heart-strings are coiling and clasping
Round all that gives promise of gold.
Shame to those who, with eager attaining,
Are willing to take but not give,
Whose selfishness coldly enchainning
Forgets it should "Live and let live."

There is room in the world for more pleasure
If man would but learn to be just;
And regret when his fellow-man's measure
Runs over with tear-drops and dust.
We were sent here to help one another,
And he who neglects the behest,
Disgraces the milk of his mother,
And spreadeth love's pall o'er his breast.
And the spirit that covets unduly,
Holds sin that 'tis hard to forgive;
For Religion ne'er preaches more truly
Than when she says, "Live and leve."

Canadian Sympathy—No Suppression.

We received your issue of January 1st with much satisfaction, and all seem very much pleased with the improvements therein. Referring to the attempt to suppress your paper, with all due respect to the W. U. Co., I would like to say a few words in accordance with the feelings of sympathy for your paper by Canadian operators.

THE OPERATOR, which was started on a very small scale, and which has gradually crept up to its present size, is now the only telegraph paper that operators in all parts of the country recognize. It has always worked both for the interest of the W. U. and of operators combined, and never has an article appeared in its columns to in any way hurt the interests of the company, or promote bad feeling between employers and employes. When orders were issued to reduce salaries, which made the operators feel a little sore, THE OPERATOR advised the men to do nothing that would be injurious to themselves or the company, and that probably the salaries would be advanced in the spring. The last move of the Western Union in trying to suppress THE OPERATOR has created a just indignation all over the country. Truly this paper must have become very vigorous and influential when a large company like the Western Union begins to get afraid of it. Perhaps they have reasons to be afraid. They may be contemplating another reduction of salaries. If so, then last move was a bad one for their own interests. THE OPERATOR was not likely to say anything against the interests of the company so long as the proprietor had a direct interest in and company, but they (the W. U.) have lost the game by showing their hand too soon. It would have been a better move had they bought up

the paper; then, perhaps, they could have suppressed it. Their action will have no sympathy from outsiders, nor from any of their employes; on the contrary, it will be criticised all over the country. Now is the time for all to come forward and show that we can support a paper independent of the company, that will be worked in the interest of the operators. Let every man rally round the key. Throw in your nickles and silver, and our circuit will be so strong that it will be felt from the Pacific to the Atlantic, and from the north to the south.

I have taken up too much of your valuable space this time. May write more anon.

Yours fraternally,

LIBERTY.

Annual Meeting of the Canadian Telegraphers' Mutual Insurance Association.

The first annual meeting of the Canadian Telegraphers' Mutual Insurance Association was held in the Mechanics' Hall, Montreal, on Dec. 8th, for the election of officers and the rendering of the financial report of the Association for the year 1875, Mr. J. Stephenson in the chair. The President's report shows that the number of members who have joined the Association during the first year of its existence to be 372, and the monies received from subscription fees, etc., \$378. The expenses have been \$151.34, leaving a balance of £226.66 to the credit of the Association. No death of members have occurred during the year. The officers of the past year were re-elected, as follows: President, J. Stephenson, Montreal; Vice-President, Hugh Neilson, Toronto; Secretary, B. J. Hickey, Montreal; Treasurer, J. S. McConnell, Montreal; Executive Committee, C. R. Hosmer, Angus Grant, J. S. McKenzie, A. T. Nurse, D. McCarthy. After some slight alteration in the By-Laws, the thanks of the meeting were tendered the Board of Management for the able and satisfactory manner in which the business of the Association had been conducted, and the meeting adjourned.

THE DIRECT CABLE REPAIRED—THE FARADAY COVERED WITH ICE IN A STORM.—The steamer Faraday has repaired the Direct Cable. She reports heavy gales of head winds since leaving the Thames. She arrived at the place of the break on Thursday, but was prevented from working until Sunday in consequence of a heavy gale. The ship was completely covered with ice. She picked up the Irish end of the cable immediately on putting down the grapnel and buoyed it, and then recovered eleven miles of the cable to the fracture, and completed the connection. Whether the accident was caused by fracture or design was not determined. The splice was made at 11 A. M., within twenty-four hours after beginning operations. During the whole period a heavy snow storm and strong wind prevailed.

When the salary book was passed around at the Western Union main office on last Thursday, it bore the following memorandum from the manager: "Employees will please bear in mind the discount on all salaries above \$50 per month, and not make requisition for amount not due under the discount regulation." A. S. DOWLER, Manager.

There is not the slightest danger of the company's minds proving treacherous in this matter. They thoroughly appreciate the New York bill proposed them by the Western Union Telegraph Company.

W. F. SAWYER does not believe that "ethereal" force will ever amount to anything, and very sensibly asks: "Well as invention really believes that he has discovered a source of safety, give the public the advantage of his researches until such time as he shall have secured himself by letters patent?"

CORRESPONDENCE.

Our Chicago Letter.

CHICAGO, Dec. 10, 1876.

TO THE EDITOR OF THE OPERATOR.

The holidays have come and gone. Every one seemed to enjoy their share of merriment and happiness. Business on these days was light, and for half the normal force was required for duty. A number hired substitutes, and didn't even put in an appearance to give their more unfortunate comrades a friendly greeting. No doubt justice was done on the "cold list," as the majority provided themselves with "kisses" of various tints and designs, even some in the "red line" could be seen with samples consulting one another as to the quality and suitability.

Business continues quite good considering the dull times, the scarcity of money, and the little doing in other branches of business. The reduction is upon us, and the boys all seem reconciled to their fate, at least, few complaints are heard. Notwithstanding this cut down and times of practical economy, the apple vendor receives the usual patronage of the office.

We recently received a friendly visit from Mr. Rollin McMeans, of Omaha, Neb. The general hand-shaking with his many friends and acquaintances in the office betokened a fraternal feeling that should be more universal.

On Monday our friend, Amos L. Avery, returned to work after an absence of a few weeks in New York State and city.

Mr. H. Ste. Austin returned from Mauston, Wis., to-day, and is looking quite well after his recent illness. No doubt he will soon join us and amuse the boys with his witty sayings and acrobatic maneuvers.

Mr. J. I. McRellie has gone east on a vacation. Mr. Jno C. Bale, of the night force, bid us all good bye last week. After a brief visit in Canada he sails for Europe, where he will spend about three months visiting some relatives in France. We all join in wishing him a safe and pleasant journey.

Mr. Long, "Aj," has recovered so as to be able to resume work. Mr. Melvin Dean, formerly manager of the P. and A. Tel. office at Galena, Ill., is still under medical treatment. He was absent in Ohio last summer and returned benefited, but not entirely well. He has not done any work at the key for about thirteen months. His wife is manager of the W. U. office at that place.

Mr. Cuthbert, of the A. and P. office, has gone to Logansport, Ind., on account of impaired health. Mr. C. J. Ryan, of Omaha, Neb., has been added to our ranks as an extra man. WANDERER.

Changes in the Capital—The Action of the Western Union in Reducing Salaries.

WASHINGTON, Dec. 15th, 1876.

In my last letter, which failed to appear in print, I gave you a list of the new men who have accepted positions here for the winter, as follows: Geo. Sawyer, late of the cable department, New York, Z. D. Mott, late of Louisville, Ky., E. W. Thompson, late of Richmond, Va., and Herbert Wright, late of the B. and O. R. R. line. Since then R. J. McCarty, late of Mobile, has put in appearance as a "day force." Mr. Nutt is also on the day force, the other two gentlemen being owls.

Business opened with the first week or two of Congress, but fell off some during the holiday recess as usual, but is lively enough now that Congress is in session.

Economy is the order of the day. Every one is trying to see where expenses can be reduced, but it is uphill work. Nearly everything here is still at or

near war prices, and as all have had to be very economical to live at their old salaries, it is difficult to see just how they will be able to make both ends meet now, when they have to stand a cut of that kind.

If the Western Union Co. is anxious to reduce expenses, it could have been done very easily without a cent reduction of salaries of any employes, and with good feeling all around. The men took it very quietly. No one thought of such nonsense as a strike, which would be a grievous error, but on all sides is heard the resolution to leave the business as soon as possible. It is a noticeable fact that every good operator or clerk, who has been compelled to leave the business by just such acts as this, has done far better than if he had remained in it. A man who has brains enough to become a first-class operator, can not fail to find something to do, where his experience and judgment is far better remunerated than by any telegraph company. When the Western Union finds this out, as it surely will, it will be too late to correct the mistake. Any one can see how rapidly the service is deteriorating. Very few circuits are worked up to their full capacity. There is no inducement or encouragement held out to the men to do the best they can, and the result is that all over the country the rapid and accurate work of former years is being replaced by slow and inaccurate work, which does no credit to the men or the company. Every year that an operator or clerk remains in the service of a telegraph company, he becomes of more value to the company, but he has no evidence that this fact is appreciated; on the contrary, it seems to be the desire of some in authority to shove him out just about then, and put a student in his place, because it is a direct saving of a certain per cent. on the salary list.

The recent correspondence between Superintendent Brown and the editor of THE OPERATOR needs no comments. It speaks for itself.

General Stager is reported to have said that the men east seemed to be well satisfied with the change in their "plethoric pocket-books." Sorry he didn't extend his trip this way, he would have had a sorry hunt for such an article in this part of the country—among telegraph employes. All that have been seen look as if an elephant had said his prayers on them, or that the new Western Union building in New York had fallen on them.

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Cold Weather—Changes—The Sex Question in the Toronto Office—Canadian Operators Greet Their Brethren in the States.

TORONTO, Dec. 6th, 1875.

EDITOR OF THE OPERATOR:

Now is the season of our discontent. We have had a heavy snow storm, accompanied by severe frost, the thermometer registering 15° to 20° below zero in some parts of the Dominion.

Various changes have taken place since our last communication. Our mutual friend, Charlie Brooks, has gone up to his old winter quarters, the Parliament House, for the session. Billy Scott has gone down home on a month's vacation. Johnnie Wolfenden has been transferred to the night staff, and likes the change first rate. What's his name Jack Mullen looks after No. 10 east during Scott's absence, and William Cole rushes the boys on No. 1 west until Brooks gets back.

We are to have two big archways cut in the partition that separates the gentlemen's department from that of the ladies. The ladies, heaven bless 'em, don't mind the change. They rather like it, but are afraid that the boys will have to forego the little smoke after 6 P. M. that they (the men, not the ladies) now so much enjoy.

On the 15th of November N. D. Webster was

made the recipient of a fine boy, weighing about eight pounds.

Your correspondent dropped into Toronto St. branch office the other day, where he found that facetious young man, Tom Matchett, penned up in one corner of the store, along with the office boy holding a copy of THE OPERATOR of the 15th in one hand and explaining with the other the *modus operandi* of the quod. Tom says there's nothing to match it (Matchett). This is the nicest and neatest branch office in the city. During busy seasons Mr. M. handles from 80 to 100 messages daily.

Here are a few bulls: Nest Garland, for N. T. Garland. F. C. L. D. for Field. Inuon Street, for Queen Street. "That's the way they came."

Miss C. Henderson, M. T. Co., Newmarket, has been confined to her room for several days through sickness, but we are happy to say she is able to get around again.

Our boys join me in wishing our American brethren a Merry, Merry Christmas, and many of them. M. T. HEAD.

A Noble Resolve—The N. W. Office and Men.

MILWAUKEE, Wis., Dec. 29th, 1875.

TO THE EDITOR OF THE OPERATOR:

I have carefully perused ever issue of your sprightly little journal since the first of January, 1875, and am sorry to say that during those twelve long months I have not had the pleasure of reading one solitary item from the City of Bricks. I often thought of, and frequently attempted, writing a few words myself; but not wanting to seek newspaper notoriety, I refrained from so doing. But with the new year I concluded to scratch off an item occasionally, which may be of interest to your many readers.

Our office is located on Michigan Street, in the Chamber of Commerce building. For our present force the office is altogether too small, and with the addition of another man or two we would be uncomfortably squeezed for room. The force, including both the Northwestern and W. U. sides, is composed of thirteen operators. Mr. W. H. Kelsey officiates as chief operator on the N. W. side, and is as good a chief as one would wish. By his present deportment and good nature he has gained the respect and esteem of those with whom he is associated. Next comes Mons. H. J. Ramsey, who knocks down on the St. Paul wire at a rate that would astonish the natives. There's nothing slow about Hen. He is sure to make his mark in the telegraph world ere long. J. M. Hogan looks after the McGregor wire, and manages to keep every thing in good shape. Now comes Jerry O'Connell, the old timer whose name for a time was echoed throughout the length and breadth of the land. His many friends will be pleased to hear that he has settled down to business again, and turned over a new leaf. He doesn't indulge in crooked whiskey any more, and prefers to while away his time in transmitting biz over the Green Bay line. A short time since he was elected secretary of a total abstinence society, which office he still holds. Mr. C. H. Johnson, formerly connected with the Michigan Southern R. R. at Elkhart, Ind., distributes lightning over Nos. 4 and 5, also sends report to St. Paul and Minneapolis every evening from six to nine. Although Charlie has been with us but a short time, he has, by his courteous manner, made many friends. Our next man deserving of notice is Fred E. Parker, lately from Madison. Freddie has his hands full all the time, and attends to biz like a little man. He's a great favorite with the fair sex, particularly those in the third ward. He doesn't care if he is lynched.

Mr. W. Hall has charge of the N. W. side after 6 P. M., and always has his ears open to answer a call. Bill is rather quiet and sedate, but for all that he's a whole-souled fellow. In my next I will speak of the W. U. force.

Wishing all your readers a Happy New Year, and success to THE OPERATOR, I subscribe myself

GATE.

A New and Handsome Office at St. Catharines—Growth of the Business in Twenty Years.

ST. CATHARINES, ONT., Jan. 6th, 1876.

TO THE EDITOR OF THE OPERATOR:

The Montreal Telegraph Company's office here has been removed to new and commodious quarters one door south of the late office. The shop hitherto occupied as a drug store has been entirely remodelled, refitted, and generally improved for this office. It is fitted up in the latest and most improved style, and has a large walnut counter equal to that of any bank, surmounted with a screen glazed with frosted glass. Nine wires are brought into the office and conducted in grooved boards to the switch, a beautiful and intricate little piece of mechanism arranged for nine distinct lines; from thence they are taken to the instruments, six in number, set upon beautiful black walnut tables. The battery-room is down in the cellar. The general appearance of the office is very neat and tasty. Altogether, the office is very handsome.

It may not be out of place just here to make a short reference to the employés of "Sc" office. Mr. Smith, the manager, has been here for a number of years, and commands the respect and esteem of all who have had any business with the office. Mr. Dudley, chief operator, has been so long connected with the office that he has almost become part and parcel of the same. "D" is a first-class operator and a thorough gentleman in every sense of the word. He is ably assisted by Messrs. McClelland, "Mc," and Adie, "A," both good operators, who thoroughly understand their business. Keefer and Lawlor are the messengers, two smart, active lads who will some day make their mark.

The fitting up and moving of the office was under the superintendence of Mr. Thomas Townsend, Inspector of Telegraphs, who informs us that with one messenger boy and one wire, just twenty years ago, he done all the business alone. It was about this time that Mr. Thomas Henning, son of Mr. J. Henning, of this place, came in this office as a messenger. He is now one of the best operators in the United States, being second in command in the Western Union Company's office at Buffalo.

The New Head—A Word to the Wise—Plug Factories.

EDITOR OF THE OPERATOR:

Your paper of January 1st came to me in a new and elegant dress, which adds greatly to its appearance.

I notice by your last issue that there has been some changes made in the running of your paper, and I sincerely hope the change will be for the improvement of it, and that it will become *second* to no scientific journal in this country; and its success depends to a great extent upon the efforts of telegraph operators throughout the country, and by a little effort on their part its circulation ought to reach ten thousand during the present year.

THE OPERATOR, as an organ of telegraph operators, should endeavor to expose to the public one of the *greatest humbugs* in this country, known as telegraph colleges, where hundreds of young men and ladies are victimized every year. I might write a lengthy article in regard to them, having had some experience as instructor in one of said institutions where from fifty to seventy-five "plumes" were fitted out annually, but will defer it until some future time.

With my best wishes for the future prosperity of THE OPERATOR, I remain

"Fraternally" yours,

"Doc."

♦ ♦ ♦

It is extremely consoling to an operator to have a long D. H. message of about 150 words conclude by the words, "Will send particulars by mail."

A First-Class "D. H." that will bear Watching.

WASHINGTON, D. C., Jan. 8, 1876.

One of the latest and best plans of getting a good square turkey dinner has come to light in this city. The facts are as follows, which should be borne in mind both by operators at work and the traveling community of operators, commonly called "beats," as well as hotel keepers and restaurateurs. A few days ago a rather seedy individual put in an appearance at one of the branch offices in Washington, and asked the operator in charge to be allowed to "buz" to the superintendent. In conversation "beat" asks the operator the name of the regular man, who was absent that day. The information was given, and beat, after slipping a headed message blank into his pocket, took his leave. Next day the regular operator was presented with a little bill for \$1.35, and shown what purported to be an order from himself, as follows:

"Please give the young man what he wants to eat, and I will settle with you in the evening, and oblige,
F. W. S."

The officers of the law in this city are after the "plume," and we hope they will be successful in capturing him. We sympathize with the restaurateur who furnished the dinner, and consequently finds himself \$1.35 out. It will be well to keep an eye on this lad of apparently twenty summers, game-legged and slight features, who will, no doubt, give others a call if he is left at large. Should any one lay hands on him, they will confer a favor by giving him an extra shot for us. "F" and "Cu."

DOMESTIC NOTES.

HENRY CLOWN was the way he had it first, but a repetition changed it to hurry down. This is on one of the broker men.

THE following poetic effusion was found on one of the ladies' desks recently:

A gentle kiss is not amiss,
When you, love, are discreet;
But pray forbear when people stare,
I earnestly entreat.

"THE Executive Committee of the Western Union Telegraph Company, needing a new set of diamonds, has concluded to cut down the wages of the office boys and messengers."—*Arcadian*.

If the office boys and messengers are to supply a new set of diamonds for the whole committee, why shouldn't the operators pay for the new building?

THE SECOND ANNUAL BALL.—The Second Annual Telegraphers' Ball will be held at Frerero's Assembly Rooms, Tammany Hall, on Friday evening next, 21st inst. The indications are that it will be a grand success, and that a great many will be present, notwithstanding the Sliding Scale. Look out for a full report in our next issue.

THE main post office is now connected by telegraph with all the sub-stations in this city, the line being first put in operation yesterday. An office has been arranged on the main floor upon the Broadway front of the building, and other wires will be run in to the Postmaster's and Searcher's rooms, and it is expected that the arrangements will greatly assist to the quick transaction of the department's business.

ON Tuesday last the Spanish Ambassadors to the Centennial, numbering about a dozen, visited the Western Union office. They all wore George Cumming coats, and as they remained in the office a considerable time, a rumor got around that they were detained by Manager Downer until he could find Mr. Bagley, whom it was strongly suspected was hidden among the crowd. The rumor proved unfounded.

ELECTRIC SPARKS.

SUBTERRANEAN cables are to be laid in Chicago, and the telegraph poles removed.

THE Chicago Times, which taps the "suburbs" with wires, pays \$100,000 a year for special local telegrams.

A NEW electric engine, adapted to pumping water through a house, or for any other light domestic work, is announced as in successful operation.

THE SLIDING SCALE.—Samuel Sloane, President of the Delaware, Lackawanna and Western Railroad, has informed all operators on the road that all commissions paid by the Western Union Telegraph Company, on messages sent over the wires, are to be accounted for to the company. This cuts off many dollars from the income of the railway telegraph operators.

MULTIPLY TELEGRAPHY.—There was a successful experiment with Gray's harmonic system of multiplex telegraphy at Milwaukee, January 8th. A loop was arranged by way of Horican to Portage and back by way of Watertown, a distance of 200 miles. Over this single wire eight messages were sent and received at the same time. The experiment was witnessed by a number of telegraphers and representatives of the press.

FOREIGN NOTES.

THE earnings of the Anglo-American Telegraph Company for December 16th amounted to \$10,400.

THE receipts of the Submarine Telegraph Company for March, 1875, amounted to \$51,465, and for the corresponding month of the previous year \$44,525.

AN interim dividend at the rate of five per cent., free of income tax, has been declared on the shares of the Brazilian Submarine Telegraph Company for the quarter ended September 30th, 1875.

THE Western and Brazilian Telegraph Company have increased the tariff over the lines of the company about forty-five per cent.

THE traffic receipts of the Direct Spanish Telegraph Company for the month of November, 1875, were \$9,485, against \$6,120 in the corresponding period of 1874.

THE number of messages passing over the lines of the Cuba Submarine Telegraph Company during the month of November was 2,529, estimated to produce \$12,500, against 1,621 messages, producing \$6,520 in the corresponding month of 1874.

SIR DANIEL GROUCH, President of the Great Western Railway, of England, intends increasing the speed of the two trains known as the "Flying Dutchmen" running on that road, to seventy miles per hour.

THE extension of telegraphic communication from the capital of the French postal colony in New Caledonia to the principal villages and Government stations is advancing rapidly, and a large staff of operators are engaged using the method the proposed line from Canada to Uman. This will prove an extensive work, as the wires are to run through a dense forest and cross a mountain range at a height of about two thousand five hundred feet above the sea.

MARRIAGES.

SAYLOR, JAMES.—January 4th, at the residence of the bride's parents, by Rev. C. F. Smith, Pastor, Minister W. U. Tel. Co., Eastern Bldg., Miss Alice James, of Chattanooga, Pa.

BIRTHS.

BORN on Monday Dec. 25th, at the residence of Western Union Tel. Co., Baltimore, Md.

PERSONAL.

R. E. ROWLAND is at Amherst, N. J.
 MR. R. E. REED is at New Castle, Pa.
 W. S. LEAKE is manager W. U. at Dixon, Cal.
 MR. W. E. BOZLEY is manager at Shamong, N. J.
 MISS ALICE A. PENDLETON is at Terryville, Conn.
 A. R. BEACH is manager W. U. at San Rafael, Cal.
 JAS. A. PERKINS is manager Camp Lowell, Arizona.
 JACK LEAHY is subbing for the W. U. at Woodland, Cal.
 MR. WARREN KINGSBURY is at North Chelmsford, Mass.

GEO. W. PURDON, of Sacramento, is rusticated in the States.

SENATOR G. F. JONES is slinging a res for the A. and P. from the Capitol.

G. O. STEWART AND J. C. SHERER are the "rushers" at Yreka, Cal.

H. M. MILDENWALD is manager of the Western Union office at Lehigh Gap, Pa.

ED. C. FLEMING has been appointed operator at St. Louis. J. W. Gordon, resigned.

21370 K Street was the way a Connecticut artist rendered 213 Milk Street.

MR. GEO. W. GLEIST has changed his abode from Emans, Pa., to Topton, same State.

MR. J. W. MORISON is with the Montreal Telegraph Company at Clifford, Ont.

C. J. SULLIVAN, known among the boys as "Spoke," is a "no bugs" operator.

LES BRADLEY, who recently arrived from New Orleans, is still around out of a job.

MRS. BAKER, of Woonsocket, R. I., has gone to Westboro', Mass., on a three months' vacation.

WILLIAM THURMAN and W. J. LEAHY, two of the best on the coast, do the honors at Portland, Oregon.

MR. W. K. WOOLF is agent for THE OPERATOR at Mobile Ala., and Mr. W. J. Walker at Montgomery, Ala.

ED GORDON, who was away a few days, has returned, much to the joy of the boys on his "relief" route.

MR. GEO. E. HINMAN, of the night force of "197," has returned from his western trip looking much improved.

MR. ED KEENE, who has been "subbing" for Mr. Hinman, has accepted a position on the night force at "197."

"BRICK" KENNY, formerly with the A. and P. at Chicago, Ill., is working for the same company at San Francisco.

ONE of the Washington artists rendered it to "Carraglie and Orr," but a repetition made it "Carr, Agent C. & O. R. R."

ONE of the ladies received the signature Deprister. How the old Knickerbocker family of Depeyster would object to that change!

MISS CONSTANCE WHITEHAM, who looks after the interests of "By" wire, is a fine operator, and well liked by all on her wire as well as in the office.

A CHINAMAN in California cut down telegraph poles and used them for fire wood. He thought they grew there, and should be used on a "Sliding Scale."

WE are glad to learn that Mr. A. C. Terry, Dom. Tel. Co. Toronto, who was at home sick for a few days, has entirely recovered, and is at his old post again.

MISS BRIER, of "197," presented Miss Oliver with a white poodle as a New Year's present. As the Yankee said about the Falls of Niagara, it was decidedly neat.

MR. J. B. BAILEY is manager at Santa Cruz; Mr. M. E. Little at Santa Barbara; Mr. Geo. M. Devendorf at Los Nietos; and Mr. S. B. Rigger at San Buena Ventura, California.

MR. HEMP could not be found, and a repetition changed it to the historical name of Smith. This ox was made by one of the best looking men in the Western Union main office.

93 in the shade was the exclamation of Mail Agent Holmes, as he entered the office last Wednesday morning, wearing a linen duster done up in the highest art of the laundry.

MESSRS. N. C. CURRY, Baltimore, J. O. Seaver, Malone, N. Y., Tracy Barnes, Clinton, Iowa, H. M. Stacy, Sterling, Ill., J. M. Hogan, Milwaukee, Herbert Y. Bresce, Binghampton, N. Y., and others, have our thanks for favors.

MR. JAMES O'BRIAN, Jacksonville, Fla., wishes the present address of P. W. Bossart, and Mr. C. O. Tens, Delano, Minn., that of J. M. Adair, the latter supposed to be somewhere in Indiana.

RUPERT G. STEPHENSON lives in the City of Churches; therefore, when he verges on profanity it is painful to us. Mr. S. rendered the address of the message J. A. Dams instead of J. Adams.

ALLISON, Cunningham, Foley, Glover, O'Toole, Hunt, Williams, Lamb, Powers, Knapp, Jones, Medina, Somerville, Venton, Sheldon, three ladies, and C. T. Dozier, manager, compose the force of the W. U. Co. at San Francisco.

P. J. MACMAHON, better known as "Paddy Mac," of Boston, dropped in on us on New Year's Eve, on his way to Philadelphia. He still wears the same pleasant smile on his frank countenance, and denies that he is in any way related to the *Marshal*.

THE small boy in Vermont who called himself Charlie Ross has been identified as "Jimmy" Blanchard (no relative of Billy's). Mr. Ross, from Philadelphia, was in the W. U. office in this city talking to St. Albans about the aforesaid boy.

THE men on the Pacific Coast feel a little blue on account of the reduction, but our correspondent says they all hope by strict economy to eke out a miserable existence. There have been several meetings held, but as yet nothing definite has been determined upon.

MR. KELLY, Government operator at Campo, Cal., has taken to himself a better half. The wedding took place December 21st. at the residence of W. T. Blythe, the chief operator at San Diego. Mr. and Mrs. Kelly have our '73. The latter came all the way from Cincinnati to become that better half.

"JACK" BELL, of the Gold and Stock, N. Y., was recently married to a very estimable young lady, whose name we've not had the pleasure of learning. Jack is one of the most popular operators in the country, and no doubt his many friends and acquaintances will be happy to hear of his good fortune.

ABOUT fifty or sixty friends of the young lady operator at Riverton, gave a grand entertainment at her home in Camden, N. J., Wednesday evening December 22d. All seemed to enjoy themselves, and the affair passed over very pleasantly. Miss Prickeb, the operator, had just moved from Medford, N. J., to Camden, and was warmly greeted on her arrival.

MR. E. P. LYMAN, Telegraph Superintendent of the C. D. and M. R. R., Dubuque, Iowa, was presented on Christmas Day with a magnificent gold watch by a number of his friends, and on New Year's Day he was the recipient of a very handsome little pocket relay, manufactured by the Western Electric Manufacturing Co. Mrs. Lyman was also presented with a handsome secretary by appreciative friends.

MISS ALICE C. NUTE, formerly an operator in the W. U. office, Chicago, has recently distinguished herself as a short-hand reporter. The *Tribune* of that city says that she showed her capabilities most satisfactorily not long since in a difficult case, bristling with medical terms, and abounding in rapid speaking by reporting witnesses who spoke broken English at the rate of over 200 words a minute, "without a break."

A POCKET relay, same as advertised in THE OPERATOR by the Western Electric Manufacturing Co., and purchased from Partrick and Carter, Philadelphia, was recently voted for at a fair in Norristown, Pa. The opponents were Messrs. E. A. Leopold, P. and R. operator, Bridgeport, and F. E. Bausher, operator, "Bullock's line," Conshohocken. The latter received 219 votes to Leopold's 37, and was, therefore, declared the winner.

MR. C. H. PARR, of the Western Union main office in this city, recently met with a distressing affliction in the death of his father, who was killed by a railroad accident while on his way to visit a sick son. His brother and mother are at present in a very low condition of health, and in tendering our heartfelt sympathy to Mr. Parr, we not only express our own, but the feelings of every telegrapher who is acquainted with this sterling gentleman.

C. H. DAVIS, of the Western Union night force at 195 Broadway, possesses a sketch book which he has filled with beautifully executed drawings of the instruments and machinery used in the Morse system of telegraphy, including quadruplex, duplex, rheostat, and repeaters. The work reflects the highest credit on the gentleman, and it is not saying too much when we add that for ornamentation, lettering, and drawing with an ordinary pen, he excels any operator in the service—and the service embraces very many talented men.

"The Operator" for 1876.

"The Operator,"

A Journal of Telegraphic Literature,
 News, and Progress, and Organ of the
 United States and Canadian Tele-
 graph Operators.

THE OPERATOR for the year 1876 will be an improvement, we think, over that of former years in everything that goes to make a spicy, wide-awake, interesting, and thoroughly independent newspaper. We are entirely re-organized in every department, and hope to turn out a paper of which the Telegraphic Fraternity of this country may justly feel proud.

THE OPERATOR enters upon the Centennial Year hale and vigorous, and with brilliant prospects for the future.

IT IS A THOROUGHLY INDEPENDENT NEWSPAPER, and an UNCOMPROMISING FRIEND OF TELEGRAPHERS EVERYWHERE.

We have Special Correspondents in all the large cities of the Union, who will keep us continually posted on matters pertaining to Telegraphy.

We desire to return our hearty thanks for the very liberal support which we have received in the past, and to assure our friends nothing shall be lacking on our part to make THE OPERATOR the great REPRESENTATIVE TELEGRAPHIC PAPER OF AMERICA.

We are always happy to hear from our friends on all Telegraphic and Electrical subjects, and to have them assist us in the way of circulation, by recommending the paper, and getting up Clubs. Our premiums for Clubs are very liberal, and the goods we offer, first-class.

VISITING CARDS.

We will send by return mail, to any address, 50 of the handsomest Visiting Cards in the market—Assorted Colors, Blue, Yellow, Pink, Granite, White—with your name beautifully printed. Address,

WILLIAMS & JOHNSTON,
 BOX 3,332, NEW YORK.

"THE OPERATOR"
Purchasing Agency.

For the accommodation of those living at a distance from the city, we have established

A Purchasing Agency,

and are prepared to transact all business of that description that may be entrusted to us with promptness and dispatch.

While we will make

Telegraphic Goods a Specialty,

we shall also give prompt and personal attention to the purchase of anything else our friends may require from a need to an anchor.

On account of our position, we can purchase goods much cheaper than you could, were you on the ground, especially Telegraphic, also Watches, Chains, Rings, etc. It will, therefore, be to your interest to order anything you may require through us.

A stamp should be inclosed when asking for prices, or whenever your letter requires an answer.

All letters should be addressed and orders made payable to

WILLIAMS & JOHNSTON,
 BOX 3,332, NEW YORK.

[The demand for copies of last issue, containing the correspondence between Superintendent Brown and the editor of this paper, having entirely exhausted that edition, and a great many being yet unsupplied, we have decided to republish the article in our advertising columns.]

THE WESTERN UNION ATTEMPTS TO SUPPRESS THE OPERATOR.

The following letter will be read with interest:
WESTERN UNION TELEGRAPH COMPANY,
SUPERINTENDENT'S OFFICE.

WESTERN UNION BUILDING,
NEW YORK, Dec. 20th, 1875.

W. J. JOHNSTON, OPERATOR, 812 Sixth Avenue—

Dear Sir: Our past experience demonstrates that the publication of a paper can not be combined with the duties of an operator or other employé of this company, without injury to the interests of the latter. It is, therefore, my duty to inform you that your continued employment with us will necessitate your giving up all connection with the paper of which, I understand, you are now proprietor and publisher.

Very respectfully yours,

A. S. BROWN, Supt.

On the envelope was marked "Special Messenger," and the boy instructed to get an answer. The following is our reply:

812 SIXTH AVENUE OFFICE,
NEW YORK, Dec. 20th, 1875.

A. S. BROWN, Supt.—

Sir: Yours of this date is to hand. If you mean by saying that "past experience demonstrates that the publication of a paper can not be combined with the duties of an operator or other employé of this company, without injury to the interests of the latter," to imply that I ever in a single instance either neglected my duties as an operator, or made an improper use of information obtained as an employé of the W. U. Company, I beg very respectfully and emphatically to disagree with you.

I have had charge of this present office, evenings, for about a year, and I think my record for that time will compare favorably with most offices. I can not recollect a single instance where there was complaint made through you of any kind while I was on duty. I fail to see, therefore, in what particular way my publishing a paper—the work on which is necessarily done on my own time, when I am off duty—can be injurious to the interests of the company.

You give me the choice of either giving up all connection with the paper, or of leaving the service. I choose the latter and

HEREBY TENDER MY RESIGNATION,

to take effect either immediately or on the first of January as you may think proper

I have taken a great deal of pains to make THE OPERATOR a paper worthy of the profession, and have been very successful so far in my humble efforts; therefore, I can not allow it to sink into oblivion without at least a struggle.

Yours very respectfully,

W. J. JOHNSTON.

We were relieved two days afterward. After all, perhaps it is best that we should not be any longer connected with the Western Union. A paper which is published in the interests of the telegraph fraternity can not be as independent as it should so long as its editor is in the employ of, and receiving a salary from, any telegraph company, and we think the telegraphers of this country can support a paper of their own wholly independent of any telegraph company or corporation.

It is hardly necessary to assure the fraternity that this is an independent paper; that our every effort in the future as in the past will be for the benefit of the fraternity, and that, as we can now devote our entire time to the paper, we shall endeavor to make it even better than it has hitherto been. Within the past few months we have made some changes which we have assurance from all quarters are being appreciated. We propose to go on improving until we shall make this paper an honor to the telegraphers of America.

Our circulation is now very nearly 3,000, which we can prove by our books, but we want more. We want 5,000 before the first of February, and we think our readers can get us the balance without much trouble if they try. Shall we have it?

We have never asked operators to "support their organ;" we had no necessity. We don't ask them now. We propose to give them a paper worthy of support, and to get subscribers on the merits of the paper alone.

Let every operator into whose hands this paper shall fall, resolve himself into a committee of one to bring the matter before those who have not hitherto seen it, and ask them if they like the paper to give us their support by sending in their subscription. This is all we have to say on the subject. We shall leave the rest to the telegraphers themselves.

We don't wish to say much on the subject of the Western Union's attempt to suppress the paper by cutting off the supplies. If it thought that the loss of our place, now in the beginning of a hard winter, would necessitate the abandonment of the paper, it has seen its mistake. If this was a blow aimed at the manhood of operators, the company has the satisfaction of knowing that it was promptly and decidedly resented. It is an outrage on the liberty of the press which can not be tolerated in this country. We think our readers and the general public will agree with us there.

All our efforts henceforth will be to make THE OPERATOR the great representative telegraphic paper of America not only in circulation but in influence and usefulness, and we want the co-operation of the fraternity in all parts of the country. Shall we have it? We can not close this article better than by saying in the words of Longfellow:

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

H. B. GRINNELL.

No. 7 Murray Street, N. Y.,

Contractor for the construction of Telegraph Lines.

Contracts made for the Construction of Private Telegraph Lines. Instruments, Batteries, etc., furnished, and Lines kept in good working order at moderate Rates.

FOR 8 YEARLY SUBSCRIPTIONS

We will send a First-Class Inductorium.

BARNES' FOOT-POWER SCROLL SAWS AND LATHES.

\$5.00 to \$11.50 averaged per day with these Machines. ALL wood workers should use them. BOYS can make \$5.00 per day with them, besides learning a PROFITABLE TRADE. For a sample of sawing send 25 cents for THE MYSTIC PUZZLE, or YANKEE'S DREAM. We send it by mail. Say where you read this, and address, for FULL description, W. F. & JOHN BARNES,

Rockford, Winnebago Co., Illinois.

Box 2,044.

\$11.50 AVERAGED PER DAY.

FULTON, Mo., Dec. 14th, 1874.

Messrs. W. F. & JOHN BARNES, Rockford, Ill.—I sawed 110 frets for balustrade for portico, and 15 brackets, in first two days' running. Every one who has witnessed the working of the Saw, has pronounced it the most useful machine ever invented. I have been working from twelve to sixteen men, and have done all my shop work (scroll sawing) on your machine, running it daily since I purchased it, and have paid nothing for repairs, except for saws, which amount was comparatively small. Three weeks since I purchased some imported woods and some nice designs, and turned my attention to fret work. I have averaged per day, since that time, \$11.50. I know of no occupation as pleasant and profitable for a mechanic to spend his winter days as at the above. Your machine runs so lightly and easily that it will not tire the most delicate man after a little practice; in fact, I consider your machine indispensable to any carpenter, however small his business is, as he can introduce the little machine to his scrap pile, and make enough brackets in one week to pay for his machine. I consider my machine just as essential in my shop as a set of bench planes.

Very truly,

M. FRED BELL,

Architect and Builder.

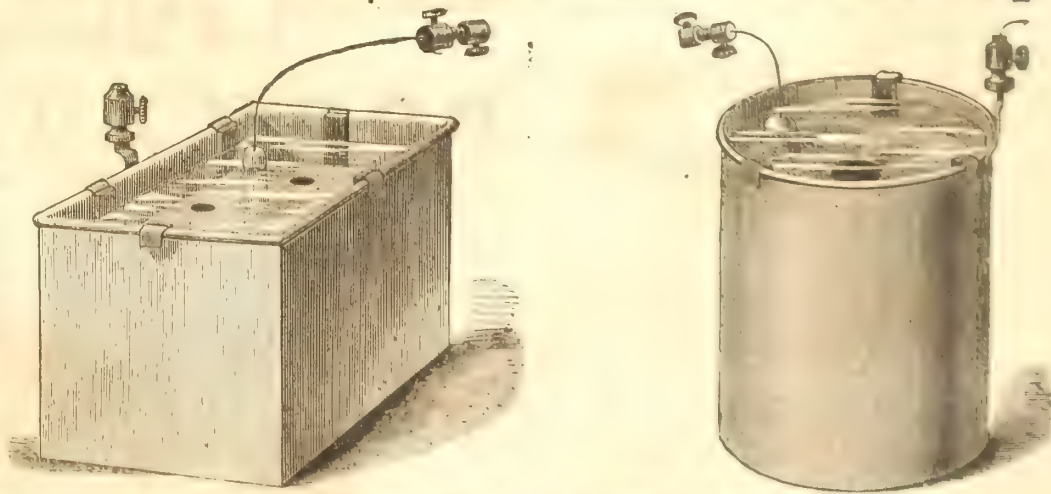
Address, for full information,

W. F. & JOHN BARNES,

Box, 2,044.

Rockford, Ill.

THE EAGLES Metallic Galvanic Battery



H. B. GRINNELL,
No. 7 Murray Street, New York,
EAGLES METALLIC BATTERY.

SEND FOR IT DIRECT. WE HAVE NO AGENTS.

Simple in construction, requires no skill to set up, or trouble to manage. It does its work with neatness, economy, and DOUBLE THE AMOUNT OF POWER of any sulphate of copper battery, as there is left in the jar an ounce of blue vitriol to consume.

For open circuits, the Eagles Metallic Battery has been found to be perfectly adapted. The battery is used in several telegraph lines, and has proved especially adapted for Electric Railway Signals, Telegraphs, and other telegraphs where a constant battery is required. Motors, and other machinery, can be run by it.

Edwin Eagles, Jr., Supt. I have been very much interested in testing up to date. My experience, after years of trial and observation have come to the conclusion that it is the best for the purpose of a constant battery presented. Its constant electric motive force, and equally low resistance, enables it to run a telegraph battery at the head of the line. I could not be without the Eagles Battery.

Consolidated Telegraph and Telephone Company, New York.

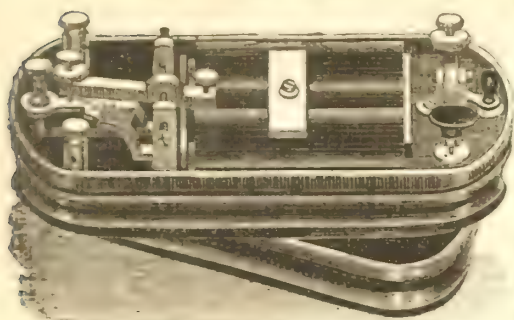
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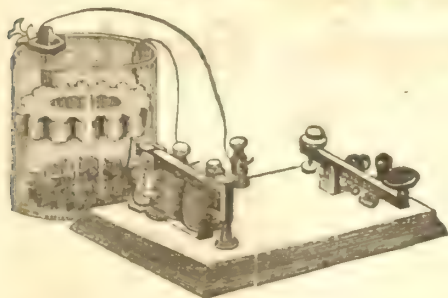
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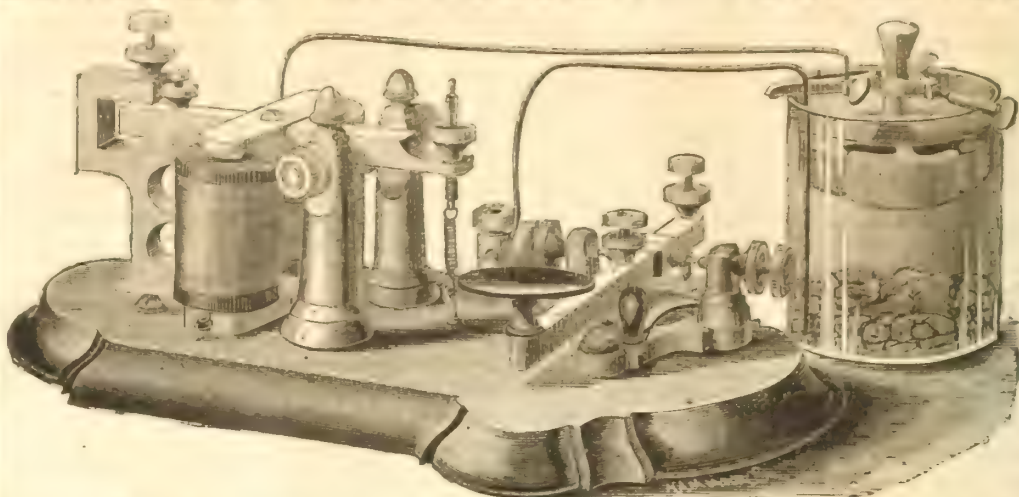
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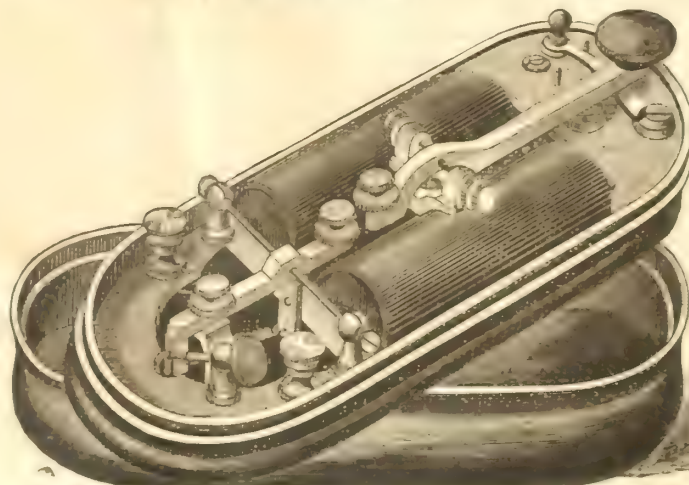
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The OPERATOR

A JOURNAL OF SCIENTIFIC TELEGRAPHY.

Vol. IV.

NEW YORK, FEBRUARY 1, 1876.

No. 11

THE OPERATOR.

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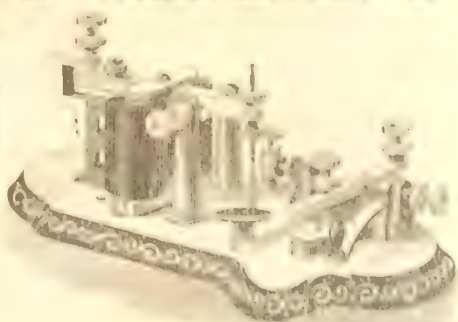
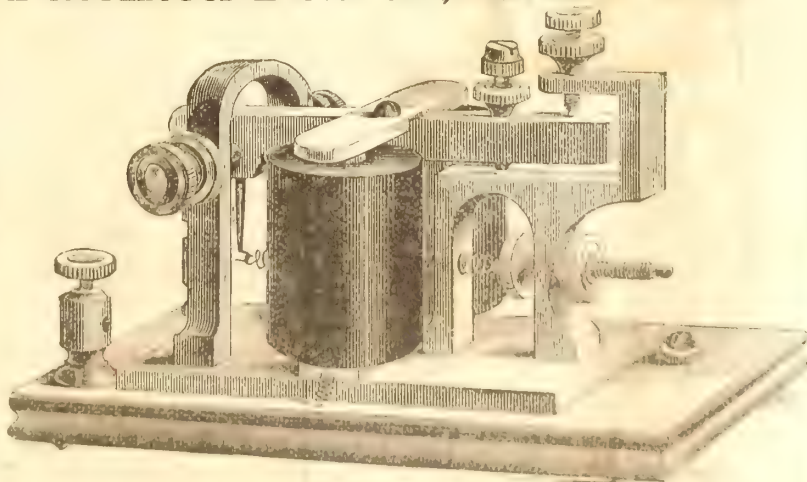
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PUBLISHED BY
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February 1st, 1876.

Volume IV.

Whole No. 48.

ORIGINAL ARTICLES.

Annual Ball of the New York Telegraphers' Association.

The second annual ball of the New York Telegraphers' Association came off at Ferero's Assembly Rooms, in this city, on Friday evening, January 21, and was, as it should have been, a brilliant success. The attendance was very large, some seven or eight hundred telegraphers of all grades and positions being present, ranging, as some one wittily remarked, from the President down to the check boy on a sliding scale. Among those present we noticed Hon. Wm. Orton and daughter, Norvin Green, Vice-President; R. H. Rochester, Treasurer; A. S. Brown, Superintendent; A. H. Watson, Purchasing Agent; C. H. Erwin, Superintendent's office; Captain Wm. Mackintosh, Foreman of Repairs; A. S. Downer, Manager "197;" chief operators J. H. Dwight, S. S. Bogart and Thos. Brennan of the Western Union, and S. H. Edwards, of the A. & P., 145 Broadway.

The hall was handsomely decorated with flags and banners of various designs. At the height of about twelve feet from the stage, and directly in front of the leader of the music, appeared the name of the Association in blazing gas-jets. On a pedestal above the stage was placed a large nickel-plated vibrating bell, which was used during the evening to clear the floor and break the dances. It was rung by the leading musician pressing his foot upon a key on the platform. An oil painting of the father of the telegraph, Samuel F. B. Morse, with his breast covered with medals and orders, looked down benignly from the canopy of flags and wreath of evergreens and carnations upon his children beneath. His family say that this is the finest picture of the Professor in his latter days extant. It is the work of A. H. Bogardus, and was kindly loaned by him for the occasion. Above this was the word "Welcome," in large gilt letters. On the pedestals of the two bronze warriors, which constantly stand and hold aloft the chandeliers on the platform, was affixed two giant sounders, connected with a key in the center of the stage. They were used by the Floor-Manager to announce the different dances. Two magneto printers were also in circuit, but the parties present were too much interested in the dancing to pay any particular attention to the working of these instruments.

At 10:30 P. M., the signal being given, the hall was one blaze of gas, which was lighted by electricity. The music started up the grand march, which was headed by Floor Manager Geo. K. Wolcott, accompanied by Miss Salisbury, of "197." For the next half hour there was one continuous stream of beauy and belles pouring into the large ball room, which soon became crowded. The toilets of the ladies were superb, and a greater number of the gentlemen wore what they term "steel pen coats."

Dancing was kept up till about 5 A. M., when the music played "Home, Sweet Home." Much credit is due to the gentlemen on the various committees

for their ceaseless labors and untiring efforts to make the "Centennial Ball" of the New York Telegraphers' Association a grand success; and it was a success, not only financially, but in every other respect, and one which the whole fraternity may be proud of. We could not wish them better fortune than that their third annual reception will prove equally as pleasant and successful.

Among the visitors present were the following gentlemen: Messrs. E. O. Chase and Wm. Gove, of Philadelphia; F. W. Glidden, of Saratoga, N. Y.; Harvey Reynolds, of Buffalo, N. Y.; Capt. Haines and Mr. Coulton, of Port Morris, N. J.; Mr. C. S. Palmer, of Newark, N. J., and Mr. Wiley, of Orange, N. J.

Messages of fraternal greeting were received from New Orleans, St. Louis, Chicago, Augusta, Savannah, Ga., Washington, D. C., and other places during the evening.

The *Daily Graphic* of January 25 gives a half-page illustration, supposed to represent the ball room as it appeared during the evening. We must say that it is a very inaccurate affair, and does not at all please us. Copies of the paper sold like the traditional hot cakes, however, and doubtless many of our readers have had copies sent them by friends in this city. Personals in connection with the ball will be found in our regular personal columns.

THE BELLE OF THE BALL.

In view of the absorbing interest in this question, we have endeavored to treat it very impartially, and think it will be found that the palm has been awarded to the most deserving. So complete are the descriptions that, without mentioning names, the persons referred to will be immediately recognized.

First there was the charming and accomplished Miss A., who by her grace of manner and elegance of dress (she wore a cardinal red, cut *demi-train*, and her diamonds sparkled brightly from under a pair of finely-arched eyebrows), was the acknowledged belle of the evening. The fascinating Miss B. was dressed in an elegant white satin bodice, cut *en train*, and rich white swiss underskirt, looped up at intervals, as it were, with rose-buds. Her smile was angelic. Miss B. was recognized by all present as the belle. Miss C. was dressed in a white silk, with an immense train, which necessitated careful navigation on the parts of those who wore number eleven pumps. She was without exception the belle. Next came the witching Miss D., resplendent in a black silk, cut *demi-train*, and a *la pompadour*, with a ruffle of swan down encircling her neck. She was also the belle. So was Miss E., dressed in a tiny pair of white satin slippers, cut bias, with elegant gold buckles and diamonds in the center, the whole surmounted by one priceless jewel, Miss E. herself. By the way, we forgot to observe that Miss E. wore a white swiss dress. She was the only one, with the exception of about one hundred and ninety-nine others, who wore white swiss on this memorable occasion. Miss G. wore a pink silk, with a red bodice, which showed off her splendid figure to the very best advantage. She seemed utterly unaware of this, however, and of the effect she produced. Was it only seeming? Miss H. wore a corn-colored silk, and a very neat little blue bow at her throat. Each of these put in a claim to the title of belle, and had their claims allowed. Miss K., from Philadelphia, was decidedly the handsomest lady present, and sustained the reputation of the Centennial City for beauty. She was a brunette, and the sparks that were emitted from her large, dark eyes, were not only powerful enough to start a flame, but also to produce a most destructive conflagration. She wore a brown silk, very expensive and very elegant.

for their ceaseless labors and untiring efforts to make the "Centennial Ball" of the New York Telegraphers' Association a grand success; and it was a success, not only financially, but in every other respect, and one which the whole fraternity may be proud of. We could not wish them better fortune than that their third annual reception will prove equally as pleasant and successful.

egant. She was also the belle. The married ladies are supposed to have got over all such vanity. It must be acknowledged, however, that there was not one of the latter present who was not the belle. There's nothing like being impartial, especially in such matters. Some dissatisfied and cynical old bachelors assert that there was not a really handsome lady at the ball; but the trouble is, the said bachelors can't appreciate beauty. The fond young husband of one of the guests settled this matter by observing, with a proud and gratified expression of countenance, "Well, no; there was no good-looking ladies there, with one or two exceptions. My wife was the best looking there." This places the subject in the proper light, and leaves nothing more to be said. The two handsomest gentlemen were conspicuous from having on low-necked dress coats, which exposed their beautifully pointed and angular shoulder blades to the admiring gaze of the beholders. This wasn't their first appearance by any means, which accounts for their *nonchalance*. The floor committee were indefatigable in their efforts to make their guests comfortable, and they succeeded admirably. The story that one of them, on being asked for a partner, sharply replied, "Why don't you bring a lady with you," is a malicious falsehood concocted by the enemy, and is not entitled to credence. The rubicund countenance of the captain of the watch was everywhere visible, and cast a refulgent ray of light and splendor over the festive scene that no other phiz could begin to compare with. It was an occasion long to be remembered by the participants, some of whom "danced all night till the broad daylight, and were carried home in the morning." Now we shall hear what our friend Nuf Ced has to say of

THE "BAM."

It was rough on "Old Prob," mighty rough; but then the end justified the means! You see the old gentleman had thought the thing all over, and concluded to conciliate the croakers who clung to the old superstitious notion, and stoutly averred that Friday *must* be a bad day for a spree by setting down for that day just the worst kind of weather. So the report, as *he* wrote it, was "generally rainy, drizzly, soaky, and altogether *beastly* weather for New York and the Eastern States."

But that didn't quite suit the boys who had the handling of it, so the "sigs" were "doctored," and when they appeared in the papers on Friday morning and went broadcast over the land "clear or partly cloudy and slightly colder weather, with southwest to northwest winds." The old man swore a little, but that didn't help it, and, as he couldn't risk his reputation for correctness, he just postponed the rain till Saturday, and concluded to abide by fate and give the boys what they wanted for once, and even "see" the report and "go them one better." "Partly cloudy" was a bit odd, but *just* the brightest and best kind of a night did we have, clear and starlight, and I expect to make ulsters and wrappings comfortable, and to also extricate the fine feet, and bring out the knickerbockers of the key in fuller force than ever before.

At ten the waiting rooms were crowded with swallow tails and the glossiest of tails and long gloves, and *lancers* were *frantically* adjusted, and flowers arranged, and in half past ten grand march was called, its way upwards and thronged into the hall to the music strains of Banfield's best selections.

The scene in the hall was all that could be desired, and it certainly never looked more brilliant than with all its *decorations* of burning and sparkling, while the organ "New York Telegraphers' Association" which was *appropriately* and "spoke" at *periods* above the thronged *crowd*

in the most convenient and concentrated just what the occasion called for—crash and beauty portended!

After the first set had been formed and the ball fully opened, we had a chance to look about us, and see for the first time who were present. On one side of the hall, in a graceful token of good will and fellowship from the "powers that be," were seen, arranged in a sort of "sliding scale," from the President down to a group of the officers of the company, President Ogden and his beautiful daughter, Vice-President Green and his tall and manly son, Superintendent Brown and Manager Downer, with many other lesser lights appropriately arranged in the background. On the floor were innumerable gorgeous expenses of shirt bosom, swallow tails and white ties, borne by the well-known representatives of the opposing force of both companies, McAncey leading off in the quiet dignity of President of the Association, ably seconded by the bold and jolly Sam Edwards. The mounted men, Dwight and Lyman, Singleton the Scribe, Hallock, Maver, Moffatt, Landy, McCarthy, Williams, Boileau, Deane, Himmam, Patrick, O'Reilly, Capt. McKinstry, Tom Brennan, and other members of the various committees.

I hope that some one better posted than I, can give you the names of the brilliant galaxy of youth and beauty from the ladies' side of "197," for the task is beyond me, although I noticed Miss Salisbury and her ladylike associate, of the Albany quad, together with several blooming faces, which bore the unmistakable stamp of the happy bride, among whom were the newly-made wives of our old friends Lyman and Frank Glidden, of Down East memory. "May their shadows never be less," especially Glidden's, he always did need a bigger one, and high-heeled boots don't seem to help the matter much!

On the platform were arranged sets of instruments which looked very business-like, and the old familiar click mingled with the music, as from time to time the dances were called off on the giant sounders, and, by the way, wasn't there a sort of "too-tight-kid-glove-on-the-key" kind of tone to Floor-Manager Wolcott's manipulations? Perhaps some of the first-class men could read him, but he was rather too much for us! In the center of the stage was the terminal of one of the city wires from "197," over which came from time to time messages of the heartiest congratulations and well wishes from distant friends all over the country, assuring us that "if our hearts were as light as our feet, happiness would rule the hour," and they were certainly just about right, too.

Gillott blanked the stage with two of his fine short-line printing instruments, and it is a pity that there was such a big "bug" on them; but if he had himself had the manipulation of the messages which passed to and fro, the signals would undoubtedly have been clearer; as it was, the tape showed only a hazy, indistinct mass of "X Y Q U's," which might have meant something, but was not clearly understood by all of us.

Many old, familiar faces of last year were unfortunately not visible (perhaps the reduction interfered with that long-cherished scheme for redeeming pawned swallow tails); but, although lost to sight, they were remembered, and each took an extra "slide" on the "scale" of waltz and galop to make up for their loss.

Supper, with its good things and good sayings, was announced at about 1:30, after which the business of the evening, or rather morning, was resumed, and joy was unconfined until the early gray of the dawn. About this time the swallow-coated "wall-flowers"—for, alas, the men were in the assembly—might be seen eagerly pursuing the fresh morning's *Suns*, which brought their light, but alas,

didn't describe the ball and the coils of "197" began to drop in and look forlornly down from the gallery, wishing that hard times had allowed the furnishings of the needed "subs."

Well, all good things must end some time, and so did our ball at last, and as all reluctantly bundled up and bled away at the witching hour of five, many were the heartfelt wishes that such another good time might soon come again, and we all be there to help. Brace up, boys, don't let the scale take any lower "slide;" save your money and store up the festive claw-hammer coat and the gentle kid and come to join us again at our third reception.

NOT OLD.

Poetry in a Telegraph Office.

CLINTON, IOWA, Jan. 25, 1876.

TO THE EDITOR OF THE OPERATOR.

Probably the entire fraternity know what a telegraph "log book" is, and many no doubt have had a hand in recording wire troubles in a log.

But perhaps none in the country has an opening chapter like the one now kept in the city office at Clinton—which office, by the way, is a model one, and handles plenty of business.

When this preface was commenced E. O. Wait was Manager, and is well known in the west as one of the oldest men in the profession—formerly Superintendent of the A. & P. Line, west, and now a grizzled Granger in the wilds of Nebraska. Assisting Mr. Wait was Ben. C. Wilkins, who done the rapid work with "Ch," and Ed. P. Wood was his right bower and the "solid man," 210 avoirdupois.

Mr. Wilkins is now Manager, and Ed. is running trains together on the Chicago & Alton Road, at Bloomington, Ill., but talks of going to Brazil (where operators get \$400 a month, he heard), as soon as his ankles get stronger. But I digress. Wait says "surely an office like 'Po' should keep a log the same as New York & Chicago," and he forthwith purchased a large journal book (on six months' time), and prefaces its opening with the following

— REFUSION.

In this book we shall endeavor to pen
A few short lines jotted down now and then,
Tho' we are not poets, nor don't profess to be,
These lines are not intended for any critic's eye to see;

There are words poorly spelled and pauses left out,
The writing is poor and blotted, no doubt,
But they are all *original*, if apparently thin,
And fail your attention and admiration to win;
But remember, dear reader, as you pass them by,
They were not intended for you to read, only I—
This being a "log" kept from day to day,
Of wire troubles, escapes and grounds, now passed away.

Nevertheless Wood read the first day's record and also the above preface; seizes Gillott, No. 303, and dashes off the following:

After reading the above, truth compels me to say,
Ablers poets than you are not found every day;
Who knows but Byron, Milton, or Moore,
Were once telegraphers and often swore.

And to give vent to their feelings adopted your plan,

To record their griefs and "go for" the man
Who oft times "breaks" without reason or sense,
Who fails to "adjust" and can't see the offence;
So, Ben, have patience and you will see the day
When you can bid adieu to the "key and relay."

This somewhat staggered W., but he spit on his hands and waded in thus:

You flatter me, sir, indeed you do,
Your poem is pleasing, but 'twill ne'er come true;

My star was never intended to shine
Above the fame of a telegraph line.

I'll try with patience to work my wire,
But the boys out west must "pull up higher,"
For I can't break them, you know, in wet weather,
And their writing comes in as light as a feather.

I will not complain of sending poor "Morse,"
For I, myself, am on the same horse;
But I love them all sincerely and true,
And now will bid you a final adieu.

This was a weakening blow to Mons. Wood, but while under the doctor's care "delirimized" as follows:

"Just a few more words and I'll end my strain,
He who sings too much may sing in vain,
You are too modest by half, or you would admit
The truth I have told you, but 'spose we quit,
Or Wait will get mad and conclude to chip in,
And then, great Heavens, how exceedingly thin
Our productions will seem—why only to-day
I met him at "Caps" and he proceeded to say
This has gone far enough, you fellows must close
This infernal nonsense, or I'll speak my piece,
And finish this business with a poem so grand
That my name will be famous throughout the land;
So we must be careful and not get him mad,
For when he gets started, they say, "he's bad,"
And can "grind it" out in much finer style
Than Byron himself—please don't smile.
Now, to conclude, dear Ben, do right,
And may Heaven protect you, my boy—good night."
B.

A Zephyr from the Mississippi Valley—Genuine Earnestness.

TO THE EDITOR OF THE OPERATOR.

I have been on the *qui vive*, passively, for a year or so to capture a copy of the OPERATOR, and was taking the *Telegrapher* up to the first of the year, so that I did not push my inquiries as strongly as I otherwise would have done. I felt very grateful when a copy was mailed at random to my office, and verify herewith by enclosing one year's subscription, and to show my personal interest in the success of your enterprise, I will use my humble endeavors to increase the circulation of what all the craft should consider the mouthpiece of the fraternity at large.

The spirit manifested by you in so nobly asserting your independence when under the frowns of the W. U. monopoly, has fired the most dormant and obtuse minded operators with a feeling of keen sympathy for you, as an acknowledged expounder of their wishes and defender of their individual rights.

I wish every member of the electric corps in this country had that issue portrayed before him, first in the literal correspondence and then in an enlarged review of the base motive which prompted the action which, in the absence of a worthy cause or weapon of attack, aimed to muzzle a bold little sheet which was annoying them by its bold, independent discussions of the concerns of the craft, and likewise bold but just ventilations of the increasing tyranny of the ruling classes.

With these considerations so plainly before all, and a multiplicity more equally potent, I can not conceive of a plausible reason why every operator in the country should not lend a cheerful assistance and hearty support to your paper as soon as the knowledge of the issues under which it is passing have reached him.

The average operator displays but little sympathy, ordinarily, for either party in a contest; but awaken his pride by assailing his individual interest or liberty, and he sheds his acquired lethargy in a twinkling, and develops a vast and unsuspected amount of latent stamina to enforce his rights or vindicate his cause.

But before I exceed too far the privileges of a recruit on your force, I will close by expressing the warmest interest in the OPERATOR.

Long may it wave.

AARON AROUND.

WARSAW, Ill. Jan. 21, 1876.

Scientific Gunnery.

The London *Telegraph* of Dec. 15 says: "The value of the skillful application of electricity in increasing the efficiency of modern gunnery has never been so strikingly illustrated as in the trial of the 81-ton gun just concluded. Before the use by Capt. Noble of electricity in the proof of large guns, there were no means of ascertaining what size, kind, and charge of powder were most suitable to a given caliber. By means of his electrical recorder, the velocity of the shot at any point in the tube, and after it leaves the gun, can be ascertained as a matter of simple experiment, and in this way the right size of grain, the best materials for its manufacture, the proper density, and most efficient charge have been ascertained by simply firing twelve rounds. As each round costs £25, the saving of the country's money in obtaining a maximum knowledge of the capabilities of the new gun with a minimum expenditure is at once apparent. The powder best adapted for the 81-ton gun, so as to attain the highest efficiency with the least strain in its present state, has been found, in this way, to be a charge of 230 pounds of pebble powder, 1.7 cubic inches in size, and with a shot of 1,250 pounds. The utilization of electricity in firing guns at proof is equally important. The guns at the Government proof butts were formerly fired by fixing a piece of port-fire over the vent, igniting it, and then running under cover. On two or three occasions the guns burst, the fragments struck adjacent guns, with the port fires ignited, and swinging them round with the muzzle pointed toward the town, discharged their shot into the dock-yard. An accident of this kind by the 81-ton gun turning round, would not be a question of a 40-pound shot dropping into the town of Woolwich, but of a projectile of nearly three-quarters of a ton falling into the heart of the city. Such a contingency, with the improved method of firing guns by means of electricity, as introduced by Prof. Abel's electric tube, is extremely improbable. The priming charge of this tube consists of sub-phosphide and sub-sulphide of copper, with a little chlorate of potash, and into this composition the terminals of two insulated copper wires in connection with a magnetic exploder are imbedded. The points of the wires are one-sixteenth of an inch apart, and when the current is sent along the wires, by pressing a button in the instrument room, it passes from one wire to the other in a spark, by which the tube is exploded, and comparative immunity from danger is thus obtained.

ELECTRICITY AS AN EXECUTIONER.—Under this caption the *Scientific American* points out the disadvantages of hanging as a mode of capital punishment, and recommends as a substitute a powerful Ruhmkorff coil and a heavy battery of sufficient strength to deliver an eighteen-inch spark. The teachings of science, it remarks, are heeded and sought for in the building of prisons, in the management and care of convicts, and in every modern correctional system; and yet in so simple and easy a process as the extinguishing of human life they are utterly ignored. The most certain and painless death known to science is caused by the lightning stroke, or, by what amounts to the same thing, the electric shock. When a powerful discharge of electricity is received in the body, existence simply stops, and the reason is obvious.

The effect of the shock on the system is excellently described by Professor Tyndall, who, while lecturing before a large audience, inadvertently touched the wire leading from a charged Leyden jar, and received the whole discharge through his body. Luckily the shock was not powerful enough to be fatal; but as the lecturer regained his senses,

he experienced the astonishing sensation of all his members being separate and gradually fastening themselves together. He says, however, that "life was blotted out for a sensible interval," and he dwells with much stress upon the opinion that "there can not be a doubt that, to a person struck by lightning, the passage from life to death occurs without consciousness being in the least degree implicated. It is an abrupt stoppage of sensation, unaccompanied by a pang."

The same ignominy, continues the *Scientific*, which attaches to the gallows would be transferred to this mode of destruction, while the peculiar death by lightning, which, among the ignorant of all nations and ages, has been the subject of profound superstition, would, without doubt, through its very incomprehensibility and mystery, imbue the uneducated masses with a deeper horror.

The Quadruplex Telegraph.

Moses G. Farmer, of Massachusetts, the well-known electrician, is now the claimant for the priority of invention of the duplex and quadruplex systems. He says: "In August, 1855, I read before the American Association for the Advancement of Science a paper describing a method by which four messages could be simultaneously transmitted over one wire, all of them in the same direction, or part in one direction and part in the opposite direction.

"On the 31st of August, 1858, a patent for duplex transmission was issued to me, in which patent the very device now used in the quadruplex for reversing the direction of the main current, without interrupting the continuity of the circuit, was fully described.

"The said patent was extended in August, 1872, and was reissued February 16th, 1875. In said reissue occur the following words: 'I claim, * * * 3d, in combination with instruments for sending and receiving messages simultaneously upon one wire, a key or device arranged to transmit signals by reversing the direction of the main battery current, without interrupting the continuity of the main circuit.

"'5th. In instruments for simultaneous transmission and reception of messages over one wire, the combination at each station of an accessory magnet or coil, an accessory battery, the receiving main circuit magnets, and batteries with the means of reversing the direction of the current of each of the main batteries substantially as set forth.'

"The invention described in my patent, No. 21,329, above referred to, was successfully worked, even in its then crude state, upon a wire connecting Portland, Me., with Boston, Mass., for two or three days in the early part of December, 1858; as I find, by reference to my diary, that on the 3d of December, 1858, several messages were transmitted simultaneously over this wire, and the operation of the instrument in Boston was witnessed by Mr. J. S. Bedlow, Mr. W. T. Eddy, and Mr. Geo. F. Milliken. Others were present whose names I do not remember.

"The instruments were worked on several other circuits in the latter part of the year 1858.

"These were the first duplex instruments ever worked successfully between two distant stations in this country. This occurred, too, about ten years before Mr. Stearns introduced his instruments upon the Franklin line between Boston and New York."

Patents for autographic and for copying telegraph instruments have recently been issued to W. F. Sawyer, of this city, and one for quadruplex telegraphy to L. Ohmsted.

SILVER is reckoned to be ninety times cheaper than manual power, seventy times cheaper than electric motive power, and ten times cheaper than horse power.

Activity is Not Always Energy.

There are some men whose failure to succeed in life is a problem to others as well as to themselves. They are industrious, prudent, and economical; yet after a long life of striving, old age finds them still poor. They complain of ill-luck. They say fate is always against them. But the fact is that they miscarry because they have mistaken mere activity for energy. Confounding two things essentially different, they have supposed that, if they were always busy, they would be certain to be advancing their fortunes. They have forgotten that misdirected labor is but a waste of activity. The person who would succeed in life is like a marksman firing at a target; if his shots miss the mark, they are a waste of powder. So in the great game of life, what a man does must be made to count, or it might almost as well have been left undone. Everybody knows some one in his circle of friends who, though all ways active, has this want of energy. The distemper, if we may call it such, exhibits itself in various ways. In some cases the man has merely an executive faculty, when he should have a directive one; in other language, he makes a capital clerk, for himself, when he ought to do the thinking of the business. In other cases what is done is not done either at the right time or in the right way. Energy, correctly understood, is activity proportioned to the end.—*Scientific American*.

The New Zealand Telegraph.

The Eleventh Annual Report of the Acting Commissioner of the New Zealand Telegraphs, for the year ended the 30th of June last, states that during the year 917,128 messages were transmitted—an increase of 164,299, or more than 17 per cent. over the previous year. Taking into account the value of general Government messages transmitted (£13,679 10s. 9d.), the total earnings of the department for the year amount to £69,536 12s. 3d., which, after deducting the cost of the signal department, maintenance of lines, etc., leaves a balance of £9,460 13s. 3d. as interest upon the capital expended.

During the past year 156 miles of new lines, carrying a single wire, have been erected, and 988 miles of wire have been added to the original lines, making a total addition of 1,444 miles of wire.

There are now opened to the public throughout the colony 127 stations, twenty-one of which have been opened during the past year.

At the close of the year 2,280 miles of lines, carrying 6,626 miles of wire, were in efficient service, an increased mileage upon the previous year in line 456, and wire 1,444.

The numerical strength of the department, including linesmen and inspectors, on June 30th, 1875, was 509, against 388 of the previous year.

The duplex system of telegraphy mentioned in the last annual report has been in successful operation on No. 3 wire in the Cook Strait cable since June 18th, 1874, and the advantage of speedy communication consequent thereupon has been very obvious. Instruments are now ready, and the system will be immediately introduced on No. 2 wire connecting Napier, and on the No. 3 wire between Blenheim and Christchurch. With the introduction of the system between Napier and Wellington it is anticipated that this will greatly facilitate the transmission of the increasing work now offered. It is proposed to introduce shortly the autographic system, by means of the long electric instrument, but some difficulties having just arrived from England.

A TELEGRAPH SYSTEM for telegraphing in the dark, whereby signals could be sent and received at night, and in foggy weather, has been patented by Mr. J. H. P. (the information given was obtained through a medium).

The Operator,

THE ORGAN OF THE

United States and Canadian Telegraph Operators.

W. J. JOHNSTON, - - - - Editor.

February 1st, 1876.

NOTICE.

THE OPERATOR IS REGULARLY ON SALE AT THE POST OFFICE COUNTER, WESTERN UNION BUILDING, THIS CITY. THE BINDERS CAN ALSO BE OBTAINED AT THE SAME PLACE.

WHEN requesting a change of address, subscribers will please give their *former* as well as their present address.

WE always stop THE OPERATOR at the expiration of the year, or of the time for which it is paid; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

WHENEVER an operator sees anything in his local paper which he thinks would be interesting to the readers of THE OPERATOR, he will confer a great favor by marking the piece and mailing it to us, P. O. Box 3,332, New York.

The Direct Cable.

Again is the Direct Cable interrupted. As will be seen by Mr. Lushington's letter to the *London Times*, published in another part of this paper, the company claim that the breakages are caused by some one for the purpose of enhancing the value of the Anglo-American stock. It is a very strange piece of business, but we don't see how one or even two or three men could possibly break so large a cable, and why do they not transfer their attention to the Anglo-American cable if the object is to make money? A break in the latter cable would increase the value of the Direct stock very materially, but nobody seems to interfere with it. It must be that the fishing vessels off New Foundland carelessly permit their anchors to become entangled in it. The cable runs directly across where these vessels cruise. The Direct Cable Co. offers a largereward for the conviction of any one breaking the cable maliciously. The company has had a great many difficulties to contend against. We hope it will experience better success in future.

Our Premiums.

Mr. J. M. Hogan, of Milwaukee, Wis., claims the next American Silver Watch as premium for forty yearly subscribers. We sent him prepaid a United States, G. A. Reed movement, in a very fine three-ounce solid silver case. We don't know of any way one can become the owner of a really fine watch with as little trouble as by getting up a club for this paper. There is absolutely no trouble. The paper sells itself. All that is necessary is to let it be seen. Mr. E. W. Emery, Sacramento, has completed another club of twenty-five yearly subscribers, and is starting one more of forty. He says the watch, sent as premium for a former club, keeps splendid time, and he is very well pleased with it. All those to whom we have sent keys or sounders say they are very handsome. All the goods we send as premiums for clubs are strictly first-class. See premiums in advertising columns.

Promotion.

We take great pleasure in announcing that Mr. A. S. Downer, has been officially appointed Manager of the New York office.

Since the advancement, a year or more since, of Mr. A. S. Brown to the superintendency of the Fifth and Sixth Districts, Mr. Downer has been officially known as Assistant Manager, but the duties of the entire office have devolved upon him, and this action on the part of the company is but a formal recognition of what he has practically been since that time. The responsibilities connected with the management of the New York main office are great, but owing to its perfect organization everything moves like clock-work. Some idea may be formed of the magnitude and importance of the position of Manager by the fact that about 140 wires from distant points center in New York, and in addition thereto are worked about fifty local or city wires. There are over 200 regular operators employed, besides the necessary force of office assistants.

The promotion of Mr. Downer was a merited New Year's compliment from the company. He doubtless is fully sensible of the distinction conferred upon him of being placed in charge of the finest and most complete, as well as one of the largest, telegraph offices in the world—an office which can boast among its corps of operators some of the most intelligent and expert telegraphers on the American continent.

He has the best wishes of his subordinates, and we trust his lines will always be cast in pleasant places.

Money Lending at Usurious Rates in the Chicago Office.

We regret to learn from a correspondent in Chicago that the nefarious practice of loaning money at the exorbitant rate of ten per cent. interest for every ten days, no matter what the amount, is carried on by no less than six persons employed by the Western Union in that city, from the operator in the office to head clerk in the receiving department. It would appear, also, that those who are in a position to prevent this are in the habit of indirectly encouraging it. Here is an example. An operator borrowed a small sum of money a short time ago from one of these sharks, but falling sick, and having a family to support, was unable to pay even the interest when it became due. The party loaning the money disposed of the note to a lawyer, and the latter sued for the amount. "You must either pay the money or leave the office," said the Manager. "I can not be bothered with it." Why not strike at the root of the matter and remove temptation from the men's way by peremptorily prohibiting usury among the employees under pain of dismissal? This was done in the New York office some time ago, with, we believe, excellent results. Here is something which requires an explanation. If the extra men want money that is due them, they are referred to the head receiving-clerk, who coolly informs them that they can have it by paying this ten per cent. interest. This is preposterous. If the men have a right to get the money at all, why not give them the full amount? Where, we ask, does this ten per cent. go to? Is it turned back into the coffers of the company, or does some one fatten upon the spoils?

We shall allow the matter to rest here for the present, and give Mr. Maynard an opportunity of breaking it up. We assure him that it can be done, and that the men will thank him for it. We are certain, moreover, that Mr. Maynard's attention has only to be drawn to the matter to have it remedied.

Telegraph Colleges.

An interesting account of a row in a telegraph college will be found in another column. We understand that Randolph's school of telegraphy is about being closed for want of patronage, there being only two students in attendance. By the way, it may not be generally known that it was the Western Union Telegraph Company that started this institution, but such is the case. The idea was to flood the market with college graduates, and then reduce salaries "on a sliding scale," and we are sorry to say the efforts have been only too successful.

Circulation 5,000!

Our friends have stood by us nobly. When we published the "Declaration of Independence," one month ago, we asked operators to sustain us in the position we had taken by working for us in the way of circulation; and they have. They have rallied around us almost to a man. To-day we strike off 5,000 copies, and if the circulation increases for the next few months as it has during the month of January, we hardly know where it will stop. To our friends we say, Persevere! Every operator in this country should be a subscriber to THE OPERATOR. The letters we receive are full of encouragement, many saying they would pay five, or even ten dollars a year rather than that the paper should be suppressed.

Crowded Out.

The ball takes up so much of our space this issue, that a good deal of matter is unavoidably held over. Among the rest is a very interesting article from the pen of Oney Gagin, which will appear in our next. Mr. Gagin has had a severe cold, we are sorry to say, but is now completely recovered. He was always a great favorite with our readers, and are we sure they will all be glad to hear that we have made arrangements for an article from him every issue in future. Chops, also well and favorably known to our readers, comes forward with an article written in his usually masterly style. It will also appear next issue.

50,000 Visiting Cards.

Up to this date we have mailed to yearly subscribers fifty thousand visiting cards. The time and trouble necessary to supply each subscriber is so great that we are compelled to withdraw the offer of cards to each yearly subscriber. We are expending a great deal of money on the paper, and believe it is honestly worth the price we charge. Any of our agents who have promised cards to subscribers before this notice will please mark them, and we shall supply them. We will mail fifty of these cards to any address on receipt of twenty-five cents, which is about first cost, or free to any one sending us the names and money of two yearly subscribers. Few but can do this.

Voting by Electricity.

We learn from *La Nature* that M. Martin, a noted French electrical engineer, whose numerous labors with regard to the electric light have resulted in his almost total blindness, has recently invented a curious apparatus for voting by the aid of electricity, which is intended to be used in legislative and similar assemblies, and is so arranged that, on the question being put, each member has only to press a black or a white button in a box before him, according as he wishes to vote, "no" or "yes," when one circle of a large indicator board appears of the corresponding color.

New Telegraph Line.

He had on an overcoat reaching nearly to his heels, and there were other signs about him reading, "I live in Illanoy." He entered the telegraph office, sat down to the table, and covered four blanks with writing. When he had read them over he signed his name, and, walking to the window, he shoved the sheets in and said:

"There—I guess that'll ease the ole woman's mind."

"Fourteen dollars and twenty cents," said the clerk, as he counted the words.

"Charge it!" replied the stranger.

"This company doesn't trust," said the clerk.

"Ain't I good for fourteen dollars?" demanded the stranger in a loud voice.

"You may be, but the rules of this—"

"Rules be hanged!" interrupted the Illinoisan. "Don't I own a six hundred acre farm? Don't I own twenty-eight horses and forty mules? Haven't I been Supervisor, Overseer of Highways, and Town Assessor? And am I going to run away on account of fourteen dollars?"

"I don't mean to say—"

"Yes, you do!" put in the stranger, getting red in the face. "Yon mean that I'm a sneak and a shirk! You mean to say I'd run away for fourteen blasted old dollars?"

"You see," began the clerk in a soothing voice, "you see that—"

"I see them sheets!" exclaimed the stranger, reaching his paw in after them, "and now, young man, I want to tell you something. I'm as liberal as the next, and I wouldn't kick at six shillings for that telegraph. You thought I was green, and you piled it on, but you went a leetle too far. I'm going right home and set up a telegraph myself, and if I don't run you and your old company under ground in less than a year I'll donate the best jackass in Illanoy to any orphan asylum you may pick out!"

A Row in a Telegraph School.

The students of the New York Telegraph Instruction Company were treated to a nice little sensation one day last week. The school is located at the corner of Broadway and Clinton Place. Up and down the floor are lines of desks in parallel rows, and above these stand little telegraph poles, over which stretch many little wires in every direction. At every desk is a telegraph instrument in front of the occupant, and on each of the poles is a strip of board that bears the name of the station which it represents. Instruments clicked and buzzed, and messages of love and peace passed over the lines to Boston, New York, Providence, Washington, and Jersey City. Suddenly the door flew open, and Mr. Frost, junior partner of Mack, McEachren and Frost, sprang upon the stand by the side of the principal, and telegraphing to the little order bell in the center of the room, rang an alarm. After a sharp struggle with the principal, Mack, in which both clinched and went over the platform together, Mr. Frost succeeded in making himself heard. In a long speech he accused his two partners of making fraudulent contracts with his scholars, and of cheating him (Frost) in their business transactions. He said that he had been with them in their school in St. Louis, and that since his connection with them as manager—about four or five months ago—he had been cheated out of \$800. They contracted to supply pupils with good situations for \$10 after their term of four months' study had expired; but this they would not do. Mr. Frost accused them of having carried on systematic swindling operations in Boston, St. Louis, and other cities, and said that as soon as he was convinced of these facts he determined to apprise the pupils.

The pupils clamored loudly for investigation, and five of them were selected as a committee to examine the books. The pupils gathered next morning and sat at their desks or talked ominously in the corners. There was a hostile buzz in the electrical instruments and warlike messages clicked from New York to Boston, and from Boston back to New York. At length Mr. Frost, who had slept late, entered the school room, mounted the platform, spoke vehemently of the fraud that he said the firm had been guilty of. The room was instantly in uproar, and there were cries of "Investigation," "Cheese it," and "That's good."

The students were assured by Mack and McEachren that the difficulty had arisen through the hard times, and that all trouble should be removed. A vote was taken and almost all the pupils promised to go to work, as though nothing had happened. Mr. Frost and Mr. Williams, a graduate, who avers that he has been deceived, insisted that they would carry the case to the courts.

A Charge that the Ruptures of the Direct Cable have been Made with Malicious Intent.

The London *Times* of January 26th, in its financial article, says: The following letter makes a statement of an extraordinary kind with regard to the frequent ruptures of the Direct Cable Company's wire. It is hardly possible to believe that malicious conduct of the kind here pointed out could be adopted for any save the most sinister purposes, and for the sake of all concerned it is to be hoped that the fullest investigation may be made as to the delay which occurred in making the successive breakages known. We are informed that on the last occasion the company sent word to the Stock Exchange before 11 o'clock in the morning, so that the responsibility of keeping back the announcement does not rest with it.

THE DIRECT UNITED STATES CABLE CO.,
LONDON, Jan. 25.

"SIR: In your article of to-day you say, respecting the Direct United States Cable, 'It would appear that the news of the interruption was again known in the market to certain operators at least fifteen minutes before the notice was posted in the Stock Exchange, and during that short period Anglo-American stock jumped up nearly two per cent.' While fully appreciating your laudable endeavor to stop an infamous system of gambling which can not be too strongly condemned, I beg to assure you that the evil lies much deeper than appears at first sight, and that you may do a great public service in supporting the directors of the Direct United States Cable Company in obtaining a public inquiry into these nefarious proceedings, and for bringing the perpetrators to justice. It is an undoubted fact that the ruptures of the Direct United States Cable which have occurred in regular succession since the line opened have been known to certain operators on the Stock Exchange, not hours, but some days before they happened; and it is equally certain that the ruptured cable was in each case sound and perfect up to the very moment when the communication ceased, and that the ruptured ends which have been brought home prove beyond all doubt that the rupture was by violent means in a depth exceeding that of dragging anchors under ordinary circumstances."

[Signed], ED. H. LUSHINGTON, Chairman.

It does one good to hear or read Prof. Proctor's lectures, treating us, as they do, to retrospectives and prospectives of a few million years or so. How the latest price of Western Union or the problem of squaring up one's last tailor's bill dwindle into comparative insignificance beside the reflection that in the course of an aeon or two Jupiter may become inhabitable, and our earth as dead as a door nail.

Telegraph Companies not Legally Liable for Errors in Messages.

Some time ago a party in Portsmouth, Ohio, sent a telegram to Noble & Co., Baltimore, Md., ordering two boxes of oysters of one kind, and one box of another. The telegram, as received, read "twenty boxes," instead of two, and thus caused a loss of \$380, for which a suit was brought. The case was decided Wednesday last. It was argued on behalf of the plaintiffs that the telegraph company was responsible by reason of its occupation, irrespective of any agreement on its blanks. Judge Brown instructed the jury that the telegraph companies were not common carriers: that the printed rules adopted by them became proof of the contract, and that the plaintiffs could not recover; first, because the dispatch was addressed in ambiguous language, which did not explain itself to the common understanding, and, in consequence, the company could not be held liable; and, second, the dispatch was not repeated, as required by the printed regulations; and had this been done the error would have been detected at once. Whatever law applied to the sender applied to the receiver of a dispatch; both must notice, at their peril, the regulations of the company. Judge Brown concluded by instructing the jury to find a verdict for the defendants, which was done.

Telegraphic Litigation.

A complaint was recently filed in the United States Circuit Court in this city by the Western Union Telegraph Company against the Atlantic and Pacific Telegraph Company, for infringement of the Page patent. The reply of the defendants will, among other points, claim that Prof. Page was not the first inventor of the devices which his patent covered, and for which an action for infringement is brought; that he practically abandoned his invention to the public, and that the special act of Congress under which his patent was issued did not authorize a patent covering these devices, and that, therefore, in any event, the patent is void so far as it applies to apparatus employed in telegraphic operation.

Messrs. Porter, Lowery, Soren, and Edward Dickerson appear for the Western Union, and Messrs. Leonard Myers, and Everett P. Wheeler represent the Atlantic and Pacific Telegraph Company.

Words of Encouragement.

"Of all the periodicals I receive THE OPERATOR is the most welcome."

"I could not do without your valuable little paper; it brightens many a lonely hour."

"I admire the course you took in the Brown matter, but I believe this is universally the case."

"Feeling so well pleased with the lively little journal, THE OPERATOR, I take the opportunity of expressing my gratitude toward you for the benefit I receive from its columns. Being young in the telegraph business, I feel the need of just such a paper as yours."

"Allow me to say that you are making a very neat little paper, and although I see you meet with discouragements, etc., occasionally, hope you will pull through all right, and make a paper all the better for it. Hope ere long you will be able to make it a weekly."

First Fruits of the Sliding Scale

To JIMMY. — Can't you lend me a few of the good fellows, want it bad. N.Y.
12 D H opt.
To N.Y. — Sorry, but tale is low.
Struck bottom a week ago. J.M.
10 D H opt. Q. 1

A few days ago a darkey came into the office at Cambridge, Ga., and said he wanted to send an express to his girl. "Very well," said the operator, reaching for a blank. "What do you want to say to her?" Now that's good!" remarked the other gentleman. "I ain't write no tell you what I want to say to her, I want to put my quarter back in his vest pocket and marched off."

CORRESPONDENCE.

Railroad and Commercial Operators—A Reminiscence.

EDITOR OF THE OPERATOR:

Well, yes I will now. A few days ago I had your OPERATOR offered me, but as I had more reading on my hands than I could attend to, I did not subscribe. But since you have been *washed* in the ground, as it were—well, yes, I will now. So here is \$1.25, and as I have a supply, I will add "No cards." You may pocket the proceeds.

And now I wish to add a word in regard to a fashion or habit, as you will, of correspondents referring to railroad operators in a manner not altogether liberal, and speak of the class known as commercial as being just a little superior to every other class. May be they are. But I wish to say that many a railroader could have blazed in a city office had they so desired.

Seventeen years ago—does it entitle me to the name of an "old timer"?—I was one of four who worked by sound on a line 200 miles long. Since then I have had opportunities to go into city offices, but the labor there is more confining than in a railroad office, therefore I chose the latter, and now, after seventeen years with but *one* vacation, and that for but three weeks, I find my health as good as when I entered. I have also had a better salary than the majority of city operators, for I have combined telegraphing with other labor, and thus made it pay.

A little reminiscence: About sixteen years ago I was working at "N. D." when I was called away for a day or two, and a young German boy was sent to relieve me. I had a register fixed up, and after I left my operator thought it needed cleaning, so he took the gearing out, but could not put it together, and, as a consequence, I was called back on the first train. That German boy, Emil M. Sharpe, of Milwaukee, is now, and has been for many years, the operator *par excellence* of the west.

Yours truly, MY CARD.

Matters and Things in Jersey City.

JERSEY CITY, N. J., JAN. 1876.

TO THE EDITOR OF THE OPERATOR:

But few changes of much account have taken place in the Erie R. R. telegraph force here. That is perhaps why you do not hear from this quarter more frequently than you do. There are a few, however, that may be worthy of mention.

W. E. Tator has been transferred from "Jc" office, Jersey City, to Paterson. "We" likes that much better as it is all day work. His place at "Jc" is very ably filled by Mr. C. P. McAllister, a recent acquisition. He is from the L. V. R. R. and is a tip-top man. The copy he turns out may be classed A No. 1. W. J. Sipple, our all day man at "Jc," has recently committed matrimony. We all thought Billy impervious to woman's charms, but the roguish eyes and bewitching smiles of the fair Miss Hurley proved altogether too many for him. He succumbed gracefully after a somewhat protracted struggle. May success and unbounded felicity attend their future is the wish of their friends. Frank Carey, our other "Jc" man, is away for a couple of weeks visiting his friends, and good-looking George Holbrook, of chain-gang notoriety, our all night man at Bergen, is filling his place until he returns. J. M. Hodges, day man at Bergen, has been promoted since you heard from us last. The company appreciating his worth has made him extra dispatcher on the Weehawken branch, with a suitable increase of salary. A. S. Dayton, a native of Cuba, (N. Y.) is our efficient lineman at this place, and what he don't know about building a line ain't worth knowing. I will stump him against any man in the business on getting up a pole or doing a job of work when he gets up, no matter how many wires are on the pole. There's a chance for some one. ERIE.

The Milwaukee W. U. Operators—Experiments with Multiplex Telegraphy.

MILWAUKEE, JAN. 25, 1876.

TO THE EDITOR OF THE OPERATOR:

In my last I promised to say a few words about the Western Union force, and will now proceed to do so. Six "solid Muldoons" handle the business, and are assigned to duty as follows: Mr. E. M. Shape, one of the oldest and best operators in the country, holds the baton of chief; Charles Kerraman and Robt. Nicaud work the quad. Charlie does the receiving and Bob whoops it up at about 18 words per minute, "more or less." Mike O'Regan looks after "Cm" biz, and does it in a manner which he alone knows how. Jim Bradley, an old "Ch" man, and Johnnie Quigley, recently transferred from the N. W., have it all to themselves from 6 P. M. until 30 on report.

Owing to the dullness of business two men have been laid off, Mark Farley, of the W. U., and Fred. Parker, of the N. W. Mark was boss of the Pony line, and a better boy never entered a telegraph office. His departure is deeply regretted by all. We hope to see his smiling countenance when things get lively again. Freddie has returned to Madison, and rumor says he is soon to receive an appointment from Governor Ludington as Centennial Commissioner. Hope it's true, Uncle Freddie. The reduction has been received without a murmur, and the boys all seem reconciled to the situation. We received a friendly call last week from Mr. Robt. Lord, of Toledo, Ohio. Bob is an old Milwaukee boy, and his many friends were pleased to see him.

Our friend Lan. H. Narchy, of Whitewater, looked in at us Wednesday morning.

Experiments in telegraphy of great interest were made at the office of Supt. Haskins on the 8th inst., demonstrating publicly for the first time that eight messages may be transmitted simultaneously over a single wire. Some months ago a public experiment between Boston and New York was made with four wires, and was a success. But this was the first public demonstration with eight wires. The experiments commenced at eleven o'clock; Mr. Haskins, Supt. of the N. W. Telegraph Co. superintended. Mr. Elisha Gray, of Chicago, and Mr. Samuel White, of Philadelphia, together with a large number of ladies and gentlemen, were present.

The intention was to send eight messages simultaneously over a circuit of two hundred miles, namely, from the transmitting room here by way of Horicon, Portage and Watertown back to the transmitting room again. The experiment was in every way a grand success, and at its close Haskins and Gray were warmly congratulated.

Further experiments will be made, but those already made have proved highly satisfactory and established the triumphant success of the system.

GUTH.

How to Become a First-Class Man.

SPRINGFIELD, PA., January 5th, 1876.

EDITOR OF THE OPERATOR:

For the benefit of those suffering operators who are bored by inquiries from ambitious young men, I have written the following rules for becoming a first-class operator:

It is necessary, in the first place, to become what is scornfully termed a "plume." To attain this end you must first learn to make the Morse alphabet as incorrectly as possible, being particularly careful to make five dots in every "H," six in every "P," and eight, or, if possible, ten in the figure 6. When you have succeeded in doing this to your own satisfaction, it will be time to call up "large city offices," especially on election night, and ask

the answering operator his name, and propose to enter into conversation for practice. If you do not receive an answer, call again for thirty minutes if necessary, and ask for the correct time. This failing, ask, "Who is elected?" The average operator will collapse after this, and probably say something you won't understand, when it will be well to volunteer the information that he is a fool, and go home for the night.

When you have become so proficient as to be able to send a whole ten word message to a first-class operator without being broken more than sixteen times, and told to get out more than twice, you will naturally begin to wish to be first-class yourself.

By first class is meant that species of operator who never breaks till he is thirteen words behind, and who averages from fifteen to twenty bulls per month. If you obtain this happy reputation, let it be your especial aim to "run off your wire" all whom you can; to abuse operators who are not as proficient as yourself, and generally to trifle with the company's business as much as may be necessary to show all that you are first class. Bear in mind that the sending operator never knows anything about your copies or bulls, but only about your breaks.

If after five years' constant practice you become one of the best operators in the country, you will probably receive the enormous salary of sixty or seventy dollars a month, and not have the "Sliding Scale" arrangement introduced more than once a year, but this is only a matter of conjecture.

GNOME ORR.

Christmas and New Year's in Canada—A Telegrapher Elected Mayor—Another Chance for an Inventor.

TORONTO, JANUARY 6, 1876.

MR. EDITOR:

Now that we have got over our Christmas and New Year's Holidays, and while I have a few spare moments, I take the opportunity of sending a few items, and hope they may prove of interest to your numerous readers.

On Christmas and New Year's the company was kind enough to divide our staff, half working Christmas and the other half New Year's, thus giving those whose folks live out of the city an opportunity of spending one of the days with them.

Since our last communication a few changes have taken place in our ranks. Our mutual friend, Charlie Brooks, has gone up to the Parliament House, "Z," for the session. Johnnie Walfenden has been transferred to the night staff "and likes it splendidly."

Billy Scott and little Billy Maguire have gone down home for a short time.

During Brook's absence William Cole attends to No. 1. west, and the "world renowned" John Mullen, "Ch., engineers No. 10 east while Scott is away, and not No. 10 west, as reported by your Belleville correspondent. As usual, "Ch" wants to know that fellow's name.

Two large archways have been cut in the partition that divides the gents department from that of the ladies, on the right and left side of the switch case. The latter remains in its old place in the center of the room. Although by this arrangement the ladies are deprived to a certain extent of the seclusion which their department enjoyed, yet it facilitates the dispatch of business and improves the general appearance of the office.

Your numerous readers will be glad to hear that Mr. M. Fleming, agent M. T. Co., has been elected Mayor of Sarnia for the ensuing year. Mr. Fleming is an old operator, and we hereby tender him our congratulations.

Webster accounts himself a happy man, and says

its nice to be a dada. It's a boy, and weighs 8 pounds.

Tom Pike is the best timer we have in this office in every sense of the word.

We have been honored with quite a number of visits from gentlemen of the fraternity while passing through on their way home to spend Christmas, among whom were Mr. W. H. Sparling, M. T. Co., Chatham; Alick Elliott, M. T. Co., Detroit; Jack MacRobie, W. U., Chicago; Bert. Smith, D. T. Co., Montreal; Thomas Mullen, G. T. R.—all good boys, and looking tip-top. Master Baldwin Teefy, operator and book-keeper Patterson Bros., M. T. Co., Patterson, paid us a flying visit on New Year's Day.

The other evening a young man came into our office and wanted to send a message to Owen Sound. After calling "Os" for some time, and being unable to raise him, it being 10 p. m., and small offices generally close at 8, we told him we couldn't raise "Os" that night, but that if he would leave the message it would go first thing in the morning. "Hasn't he got one of those paper machines there, and couldn't you send it to-night and let the operator get it off the first thing in the morning?" inquired the customer. We told him we hadn't got quite so far as that yet.

M. T. HEAD.

The Chicago, Rock Island, and Pacific R.R. Men.

CHICAGO, Jan. 15th, 1876.

TO THE EDITOR OF THE OPERATOR:

Being a constant reader of your valuable paper, and knowing that its columns are always open to news from the boys, I would ask a little space to tell your many readers of the operators on the "old reliable" Chicago, Rock Island, and Pacific Railroad.

At our head Mr. A. R. Swift is the genial Superintendent of the lines operated by this company, and has his headquarters in this city. He is well and favorably known, and needs no introduction. His chief operator and assistant is our friend Daniel L. Murphy, who has nobly won the position he fills, having commenced at the bottom of the ladder and steadily, but firmly, ascended. He has the best wishes of the boys. There are but two offices in the city for railroad business, the other is at our "in freight house" on 12th Street, and there (with his heels up above his head) we find our old friend Joe Scott, better known as "Scotty."

We will now get aboard the train at 12th Street and visit the next office, which is a few miles out of the city, at the new shops (which are an honor to the road). There we find Johnson, our solid man, who is always on hand. Looking into the next room we see McIntyre, a retired operator, hard at work over his books; he now has charge of the books in the M. M. office. At U. N., Englewood, we shake the hand of "Merry Mac," an old and reliable operator. Away we go, and the next place we stop is at Blue Island. Here we meet Harry Robinson, agent and operator, and big Mogul of the town. I could go on with a long list, but it would occupy too much space in your valuable paper. I will only mention a few offices, and assure you they are well filled. We can not resist informing the public that we still retain the services of D. D. Dow, at Bureau, filling his old position as train dispatcher, a position he has held for a number of years. He is ably assisted by Charley Ballard, and Green runs the biznights. At Joliet we have Charley Hasey; he is slow, but sure.

At Ottawa we still see the old familiar face of Dave M. Hall, and wonder why Davy does not find a better half. He is still in the market. Rock Island contains Ben Wilson as manager of the freight house office, and happy Tom Haggerty at the round house. No praise is needed as to their ability.

We now cross over the great bridge over the Mississippi River, and at Davenport will close our visit. We will merely step in and see Fred Osborn and wish him much joy, he having lately learned that it is not good for man to be alone. So now will bid you good day. Will write up the Southwestern and Iowa Divisions next week. More anon.

"CENTENNIAL."

A Young Woman's Adventures.

Miss Alice Holmes was detained in the police station in Astoria, L. I., one day not long since, to give officers an opportunity to procure suitable wearing apparel in which to send her to her home in Massachusetts. She wore a midshipman's cap, a heavy pea-jacket, blue flannel sailor's shirt, pantaloons, and men's boots; and her hair, of auburn shade, was short cropped, and parted on the side, making her appear as a stout and comely lad of sixteen or seventeen years. She was taken to the police station on Sunday, for disguising herself in male attire. Her sex was discovered in the boarding-house where she was sent as a boarder by the proprietor of the Carnolia Chemical Works at Dutch Kills.

Miss Holmes is between eighteen and nineteen years old, with blue eyes and fair complexion. She is five feet five inches in height. Her story, as told to Recorder Parsells, of Long Island City, and to others, is that she is from Marion, Massachusetts, where her mother lives. She was secretly married when she was about fifteen to a young elegraph operator named Barstable, and went with him to Indiana. She has a child three years old that her mother has the custody of. She deserted her home in Marion nine months ago, because she could not get some money that she thought belonged to her. Her adventures in male dress began in Providence. She tried to obtain work suitable for a woman, and, failing to do so, she hired herself to a farmer. She deserted him to go on the Sound steamer Shultz as a deck hand, and was afterward steward on the coastwise schooners Jamestown, Czar, and William H. Baker. She kept her sex a secret wherever she went. In August or September last she became acquainted with two young men named Jackson and Brier, one of whom told her that he had run away from his father, taking a large amount of money. They persuaded her to enlist with them in the United States Navy, and she then revealed to them who she was. She was taken as a ward-room boy on the steamer Powhattan at the Navy Yard. She alleges that her two companions paid the examining surgeon \$25 each to pass her without exposing her sex. She overstayed her leave from the vessel one day, and on her return she and one of her companions were put in the "brig" under arrest. On her release she deserted.

She told Recorder Parsells that she had never tasted intoxicating drinks. Her hands show how she has toiled. The palms are hard and calloused. She says she belongs to a good Massachusetts family. After hearing her story, Recorder Parsells discharged her, and Police Commissioner Bodine gave her some money to take her home.

Pneumatic Telegraph Tubes.

In the pneumatic tubes which the Western Union intend laying early in the spring, between its main office and the 14 Broad Street office, the pipes and valves of which have already been completed, and the engine for which is under way, there will be two tubes, each of which will consist of a lead pipe having 2½ inches inside diameter, encased in iron pipe having an interior diameter of 3 inches, the latter being designed as a protection to the lead. The cylinders of the air pumps for compressing and exhausting the air in the tubes have a diameter of 3½ inches. Messages from the main office will be dispatched by means of compressed air through one of the tubes, while those to be returned to the central office will pass through the other tube by exhaust air, the engine, pumps, and valves all being placed in the central office. The carriers are made of gutta percha, covered with felt cloth, the forward end being sufficiently enlarged to fill the tube and thus prevent the passage of air in either direction beyond the carrier. It is estimated that the time occupied in sending a message from the central office to the office in Broad Street, about a quarter of a mile, will be about twenty-five seconds, while the arrangement will be such that one carrier, if necessary, can immediately follow another.

ELECTRIC SPARKS.

At the regular meeting of the Board of Directors of the Dominion Telegraph Company, held at Toronto last week, Mr. Thomas Swinyard was unanimously elected Managing Director. The appointment is considered a good one. Mr. Swinyard had previously occupied the position of General Manager, and great satisfaction is expressed at the vigor which the company has shown under his management. He leaves for England this week. During his absence it is officially announced that Mr. Hugh Nelson will assume the general management of the company. It is rumored that the latter gentleman has been appointed assistant general manager. This, however, has not yet been confirmed.

The following is a *verbatim* copy of a message received for transmission at an outside office not long since:

"Sir, J benn to the sie the Mont. Co. Hattend J noth better pick the piele of befor the comm the sichet anes."

Translated it read as follows:

"Sir, I have been to see the Montgomery Company. Had I not better pick the pile off before they come to see it? Answer."

"Scharke-cool" for "charcoal" is good.

EXIT THE ELECTRIC.—The *Electric*, published by Hayes and Moxon, at St. Louis, Mo., has suspended. Mr. Hayes is working for the Western Union, at Kansas City, Mo., and Mr. Moxon for the same heartless monopoly, at New Orleans.

On January 24th a message was received over the counter at the Chester, Pa., office of the Philadelphia, Reading & Pottsville Telegraph Company, at 2:10 p. m. The message was transmitted to Philadelphia, delivered to Eighth and Market, a distance of six squares each way, an answer obtained and delivered to sender in Chester at 2:22 p. m., making the remarkably quick time of twelve minutes. This was in the regular run of business, and no special effort was made to accomplish it.

The ventilation of the operating-room at "197" is reported as being very irregular. The room is first heated to the temperature of a bake oven, and then the windows are thrown open, allowing a strong draft to prevail, the result of which readily appear in the form of coughs, colds, and sickness. But who cares?

The Western Union are working an intermediate quadruplex to Cincinnati. New York working on one side with "C," and on the other with Pittsburgh. Messrs. Kearney, Robinson, and Hallack are the agitators.

The publishers of the *London Times* are extending their telegraph enterprise. They have just concluded an agreement with the Anglo-European Telegraph Company, by which they are to have exclusive use of the cable between Bombay and London for one hour every Sunday night. The contract is to last three years, and the price to be paid by the *Times* for the accommodation is £4,000.

DOMESTIC NOTES.

It is rumored that the Associated Press will abandon the Washington wire they leased about a year ago at the expiration of the lease, which was for one year. If this be true it will save the clerical reopening the old Philadelphia, Baltimore & Washington report circuit, and adding about 25,000 words of press duty to the present bulk handled south by the W. U. Co.

The Heavy report filed last night by the Associated Press now require two wires east and west.

SEMI-SEMI-POSTER. First class, seventy-eight dollars per month. Third class, thirty dollars and a half. Extra service charges out week for fore pay day.

PERSONAL.

P. EASTON is not bad for P. E. Sloan.
W. S. LEAKE is manager at Dixon, Cal.
Mr. HOWARD L. MOULE is at Alleyton, Mich.
Wm. M. ALLISON has resigned at San Francisco.
Mr. SUMMERFIELD FORD is at Paw Paw, Mich.
T. MOODY BELL is manager at Landisville, N. J.
Mr. C. H. GAINER is the operator at Mexico, N. Y.

NOBLE CHADWICKS, write before I disown you.
NIE CED.

SEPT. CLINCH of St. John, N. B. was in town last week.

MISS LEBBE HINMAN succeeds Miss Titus at Baltimore, N. Y.

LITTLE "ALBIE" WASHBURN does heaps of work at Colusa Cal.

LIEUT. MULL EGAN has resigned at Sacramento to return to Ireland.

MISS NELLIE WAID is still at Lyons, N. Y., A. and P. Line.

MR. E. L. DYER is with the L. N. A. and C. R. R., at Lafayette, Ind.

JOHN T. MOORE, from the Pacific Slope, was in town a few days ago.

MESSRS. BELL AND HEAD represented the Gold & Stock Tel. Co. at the ball.

N. C. AMSDEN is the way one of the Dubuque men rendered N. Campbell.

"P. Joseph sick" is the nearest one of the ladies could come to "Is Joseph sick?"

MR. H. J. LEWIS is agent and operator M. and St. L. R. R., Merriam Junction, Min.

M. McCONAUGHY and W. C. Bohannon compose the force of Marysville, Cal., office.

TOM DAVIN, one of our Eastern favorites, paid New York a flying visit last week.

WE regret to say that we did not see our genial friend, Mr. T. Allen, at the ball.

JAMES W. GORDON, formerly of Sacramento, is night train dispatcher at Carlin, Nev.

CEREAND for C. E. Rand is not bad. "Ax" one of the men in the main office about it.

MR. JAMES F. QUINN, Philadelphia, has left the W. U. employ to engage in other business.

BILLY LAWRENCE is at Watertown Junction working as assistant train dispatcher. Just suits the boys.

MISSES MAGUIRE, SHAW, LAVING AND MORLEY tripped the light fantastic toe in a very graceful manner.

MR. F. C. REED, of 526 Broadway, represented the Pennsylvania Railroad. He was accompanied by his wife.

A. G. FOX, on the A. & P. Line, Auburn, N. Y., is now in his new office, but a few steps from the Western Union.

S. HURLBURT, of the Auburn, N. Y., day force, has left us for an office of his own. Mr. Kelly, of Syracuse, fills the vacancy.

MISS C. BELLE STEVENS, Ithaca, N. Y., has resigned, to the sorrow of her many friends. Frank Osborn reigns in her stead.

MR. ROBERT G. STEPHENSON and lady, and Manager Watson and lady looked to the laurels of the city of churches at the late ball.

MR. VAN NORTWICK, at the "Hu" office, Jersey City, tenders his thanks to Mr. M. J. Hayden, at Sterling Junction, for favors.

WE noticed Mr. J. J. McDermott wending his way to the ball just about the time the doors were being closed. Earlier next time, Mac.

MR. M. M. DOWNER, of "197," was informed that there were too many of his name, Downier, and was to stop his name with an "i."

It is the unanimous opinion of the press operators in the Western Union office here that Harry McKeldin, of Washington, is "very soon."

MR. ED. MILLER, "Mi," has left 197 Broadway temporarily, and is stationed at the branch office, corner of Fifth Avenue and Twenty-third Street.

WE are happy to learn that Mr. James Randall, W. U. office, Boston, who has been confined to the house by sickness since Christmas, is again on duty.

MR. JOHN A. GEHART has been transferred from Norristown to Germantown, Pa., and Mr. W. H. Potts, of the Bridgeport office, appointed his successor.

A NEW circuit has been opened by the Western Union between New York and Newburgh, taking in Paterson, N. J. It is known as 16 Erie, and Tom Allen is the artist.

"JIMMY" LARRISSEY, the veteran lineman, has been confined to his room for several weeks by severe illness, but we are glad to learn that he is in a fair way of recovery.

THE Pensacola Telegraph Company has about ninety miles of line and thirteen offices. Mr. Leonard Le Baron is manager at the P. and P. R. R. wharf, Pensacola, Fla.

CHIEF CLERK MULLIGAN, Jersey City Machine Shops, says: "Put me down for a year's subscription for THE OPERATOR. I greatly admire the paper and the plucky editor thereof."

ONE of the ladies says that the Western Union's action in attempting to suppress THE OPERATOR is a miserable piece of hypoperdemontcastricism! That's exactly what we think.

MR. WELLER, who is favorably known throughout the country as "Wr," has returned from an extended visit on the line of the Erie R. R., looking as blooming as a school girl of sweet sixteen.

MR. WALTER P. PHILLIPS, of the New York Associated Press, acted as chairman of the Reception Committee at the late master ball, and received the members of the press in his usual inimitable style.

A DELIVERY pipe 135 feet long connects the operating-room of the W. U. Co. with the delivery department in the basement. It takes twenty-eight seconds for a message to go down on a sliding scale.

EDWARD DICKERMAN, of 127 Liberty Street, lineman for Western Union Telegraph Company, was severely injured Friday last by the breaking of a telegraph pole, on which he was at work at Wooster and Canal Streets. He fell forty-five feet.

MESSRS. CLARENCE LOCKWOOD and CHARLEY WATERS comprise the Montreal, and Ed. Nelson the Dominion Tel. Co.'s force, at Brighton, Ont. Ed. says THE OPERATOR comes on time, and is as welcome as the flowers of May.

MR. DENNIS BROWN was transferred from the night to the day force at the Western Union office, on Monday, January 24th. On Thursday last he was presented with a fine daughter. We congratulate "D. B." and wish him many happy returns.

MR. J. H. FINKS, Manager of the Western Union office, Waco, Texas, was a delegate to the State Democratic Convention held at Galveston, January 5th. The Waco Examiner calls Mr. Finks a clever, genial, and accomplished operator.

MR. DECOSTER, an "old timer," formerly an operator, and afterward a palace car conductor between New York and St. Louis, and still more recently operator at Germantown depot, has resigned to engage in other business.

AMONG the distinguished visitors to the Western Union main office last week were Moses G. Farmer, the eminent electrician, George F. Milliken, Manager of the W. U. Boston office, and Harvey Reynolds, the lightning manipulator from Buffalo.

MR. FRANK NICHOLSON, who was recently appointed night operator at Ballston, N. Y., for the Delaware & Hudson Canal Company, has again been thrown upon his oars by the decision of that company to dispense with a night operator.

S. L. GRIFFIN, for many years in charge of the New York main office from midnight until 8 A. M., has received his official appointment as chief of the Eastern wires. Mr. G. has been acting chief for several months past. This is a merited promotion, and one which will please all concerned.

MR. DAVIS, of the Chicago duplex at 197, has devised a perpetual calendar, by reference to which each man on the night force can ascertain where he stands on the list. There are at present twenty-seven men on the force, and the number of *scoops* in the future will probably be greatly augmented thereby.

THE Bell(e) of the Ball was furnished by Mr. H. B. Grinnell, as were also a pair of Welch & Ander's magneto printers and two giant sounders, used in calling off the dances. We take this opportunity of thanking Mr. Grinnell for his kindness and the pains he took to promote the interests of the Association.

THE genial and courteous W. A. Austin, is in charge of the office in the Capitol and Congress Hall, at Albany. Mr. Austin's place in the main office is being kept "warm" for him by Mr. John P. Brayton, formerly of the Lumber District office. By the way, John is climbing up pretty rapidly, and bids fair to become an ornament to the profession.

BILLY FRANKLIN'S news stand at the depot was broken into on Sunday night, but Mr. Brick, the night operator, surprised the burglar and gave him chase, armed with George Hughes—the station agent—big revolver. The thief, however, dodged under a car and made good his escape.—*Paterson (N. J.) Guardian*.

Mr. Franklin was formerly operator at Passaic.

On the night of the ball Mr. Weller officiated on the W. U. city lines for Chief Brennan. The "acting chief operator, city department" proved a valuable auxiliary to the night management, and the lady chief was also loud in her praise of the comprehensiveness of Mr. Weller's report on the working condition of the circuits.

An office has been opened at Lake George, N. Y., and placed in charge of Mr. W. E. Welch. Superintendent B., wishing information in regard to the company's property there, telegraphed as follows: "How many signs have you?" To which he replied: "I have two signatures, 'W' and 'Ty.'" The same office recently called up "A," and upon being promptly answered, said, "I can not work, because I am not adjusted."

MESSRS. HOYT, of the Produce Exchange, Powers, Tyler, Hurlburt and Griffin, of 145 Broadway; and T. J. Eagan, of Windsor Hotel, represented the A. & P.; and Messrs. Case and Baxton, of Grand Central Depot; J. W. English, of 791 Broadway, M. A. Brien and Jas. W. Mead, of 14 Broad Street; Tom Brown, of the Fifth Avenue Hotel; O. F. Witchen, of Madison Square, and others were present at the ball in behalf of the New York city line.

GENERAL PYLE and Senor Ortis were shown through the Western Union main building on Tuesday last, by Captain William Mackintosh. The workings of the telegraph were explained to them by Manager Downer, and they seemed highly pleased at the prompt handling of business at 197 Broadway. It is understood that these gentlemen will have the supervision of the proposed system of telegraphy about to be inaugurated by the Venezuelan Government, and that they are on the look out for several first-class lady telegraphers, to be permanently engaged in the telegraph service of Venezuela.

MR. HOULEHAN, of Trenton, called at the Western Union main office a few nights since looking for a situation. He had been informed that there were several vacancies for men to do nothing but admire the flooring, fresco, etc., and he journeyed to secure such a position. All this in good faith. As the fresco could not be seen to good advantage at night, he was recommended to call early next morning, about sweeping time, to examine the flooring before the elevator begins working. A couple of the chiefs were detailed to explain the reflex action of the quadruplex locals (in microfarads for the spark) and to show him the freight elevator. Unfortunately Mr. Houlehan failed to keep the appointment.

MARRIAGES.

HALL—JOSLIN.—At the residence of the bride's parents, in Carbondale, Pa., Saturday evening, January 1, 1876, Mr. J. L. Hall, telegraph operator of the Lehigh Valley, R. R., at Mauch Chunk, Pa., to Miss Madge Joslin. His injunction to the boys is: "Go, thou, and do likewise."

WRIGHT—TITUS.—In Brooklyn, Dec. 14, by Assistant Pastor Halliday, of Plymouth Church, Mr. William A. Wright, to Miss Jennie Titus, formerly manager W. M. Tel. Co., New Baltimore, N. Y.

WESTERVELT—DE RYEE.—December 15th, at Corpus Christi, Texas, by the Rev. W. E. Caldwell, Mr. George W. Westervelt, Manager W. U. Tel. Co., to Miss Ida F. De Ryee.

DEATHS.

January 19th, at Jamaica, L. I., of consumption, Hiram D. Shultis, of M. S. Roberts' department, formerly night operator on the city line at 145 Broadway.

January 21st, from Bright's disease of the kidneys, Owen Doyle, foreman, Manhattan Quotation Tel. His funeral took place Monday, January 24th, from his late residence, in Brooklyn.

"The Operator" for 1876.

"The Operator,"

A Journal of Telegraphic Literature, News, and Progress, and Organ of the United States and Canadian Telegraph Operators.

THE OPERATOR for the year 1876 will be an improvement, we think, over that of former years in everything that goes to make a spicy, wide-awake, interesting, and thoroughly independent newspaper. We are entirely re-organized in every department, and hope to turn out a paper of which the Telegraphic Fraternity of this country may justly feel proud.

THE OPERATOR enters upon the Centennial Year hale and vigorous, and with brilliant prospects for the future.

It is a THOROUGHLY INDEPENDENT NEWSPAPER, and an UNCOMPROMISING FRIEND OF TELEGRAPHERS EVERYWHERE.

We have Special Correspondents in all the large cities of the Union, who will keep us continually posted on matters pertaining to Telegraphy.

We desire to return our hearty thanks for the very liberal support which we have received in the past, and to assure our friends nothing shall be lacking on our part to make THE OPERATOR the great REPRESENTATIVE TELEGRAPHIC PAPER OF AMERICA.

We are always happy to hear from our friends on all Telegraphic and Electrical subjects, and to have them assist us in the way of circulation, by recommending the paper, and getting up Clubs. Our premiums for Clubs are very liberal, and the goods we offer, first-class.

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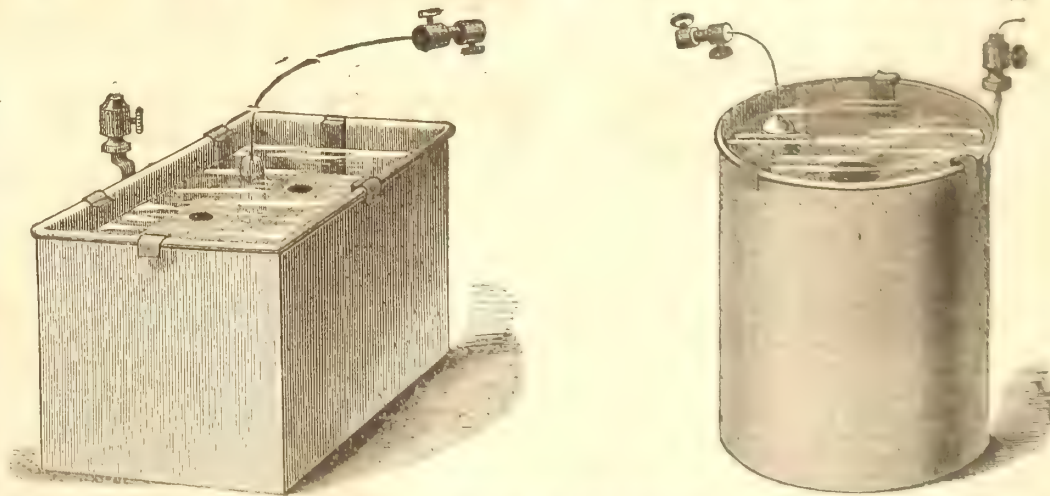
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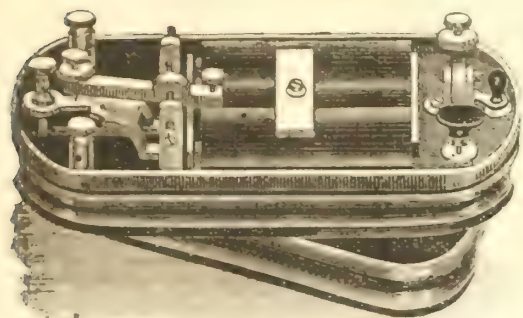
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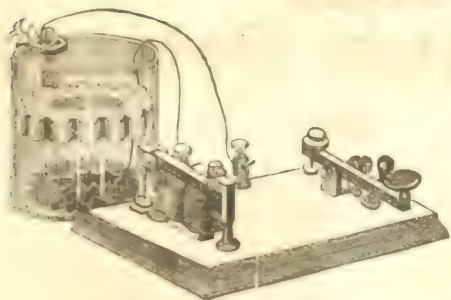
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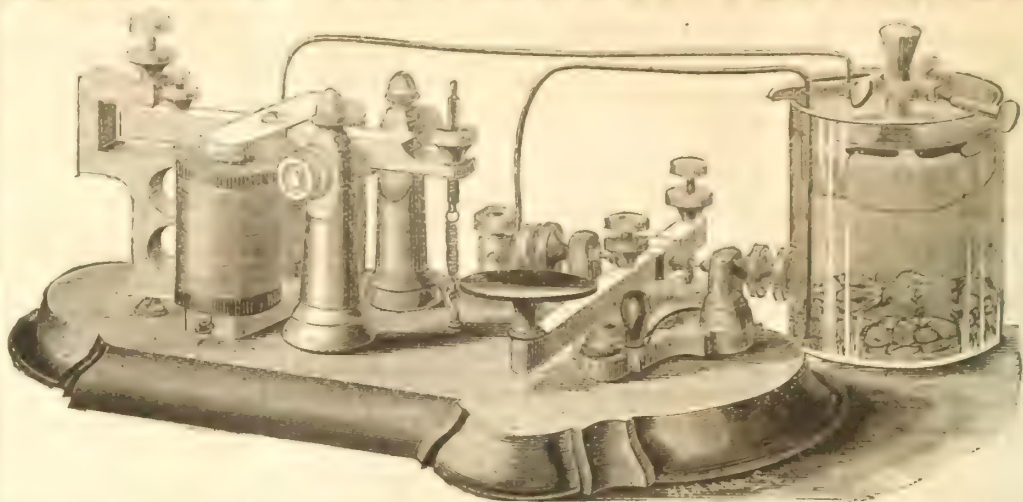
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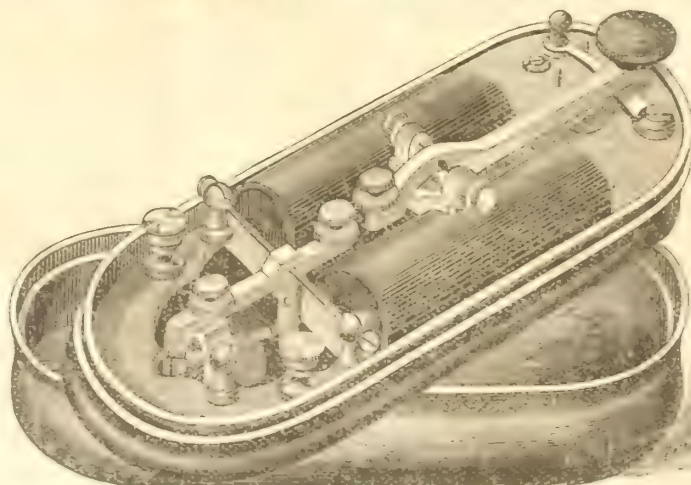
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THE OPERATOR

A JOURNAL OF SCIENTIFIC TELEGRAPHY.

VOL. IV.

NEW YORK, FEBRUARY 15, 1876.

No. 12

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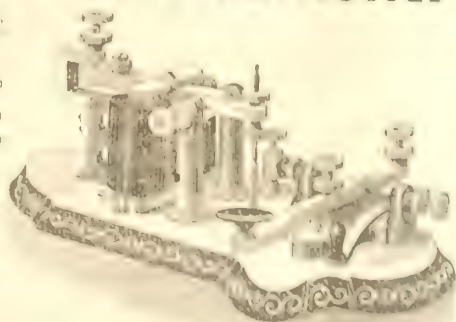
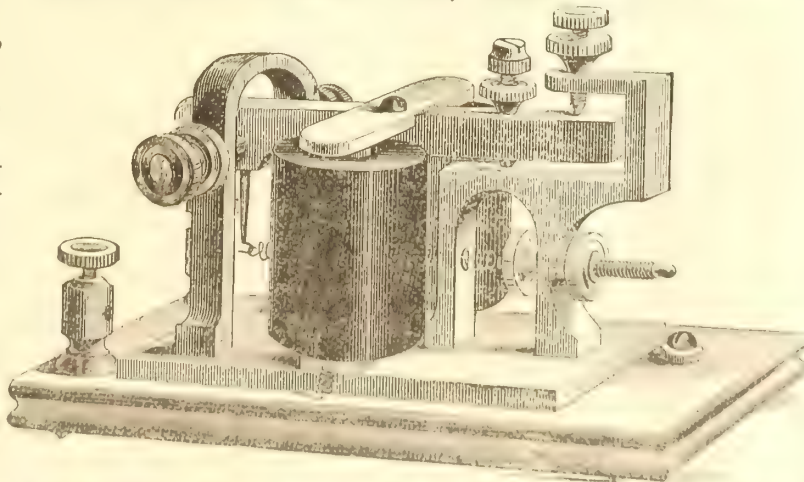
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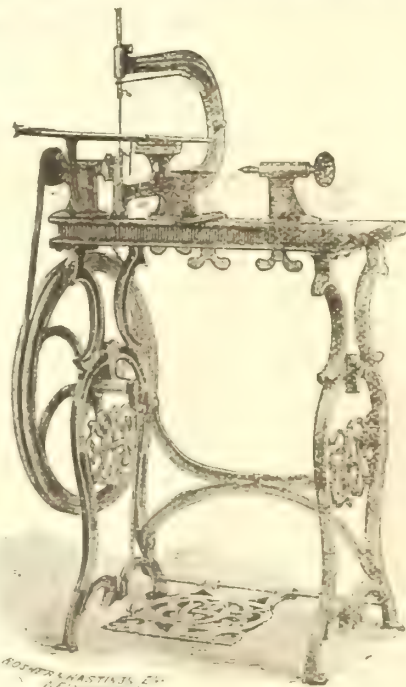
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February 15th, 1876.

Volume IV.

Whole No. 48.

ORIGINAL ARTICLES.

The Sliding Scale.

If any feel grieved that shouldn't or should,
Let it pass for an idle lay;
I dreamed that a ghastly gibbet stood
In the heart of old Broadway,
And the fruit it bore was a living wight;
Your horror this statement calms;
The noose, though fastened around him tight,
Was knotted under his arms.
A mob had gathered from street and lane,
From alley and market-place;
They hooted and cheered at the look of pain
On his pale and haggard face.
The locks—his paleness did enhance—
Were dark as the raven hue;
His eye was sharp as the eagle's glance,
For it pierced me through and through.
I well remember that eagle eye,
And my heart was filled with shame,
For the victim was one in authority high,
Though I Orton to tell his name.
"What means the ghastly riddle?" quoth I,
Oh, man of the dusky hair,
"Why! why! do they hang you up to dry
In a metropolitan square?
"Is it because of your late demand
That a thousand or more bewail—
For the vile trash wrung from the laborer's hand
The fruits of your sliding scale?
"Is it for this that they tan you hide
In the heart of New York town?"
In a deep-toned voice the President cried:
"Won't somebody cut me down?" Chorus.

How the Western Union "Remembered" the Portland Operators.

PORTLAND, ME., JULY, 1876.

TO THE EDITOR OF THE OPERATOR:

I was receiving on the duplex from Stanford, at the rate of forty words a minute, and was a little overheated. I had just asked Jim to open the window a little, when Kilmartin (the Irish Duke) sang out, "Salaries to be reduced on January first, boys!" This was an "opening" I hadn't looked for. "Never mind the window, Jim; I don't feel so warm as I did." I grew cooler every moment. Within ten seconds I had made the best time on record growing cool. Maybe I was taking the fever and ague.

No, it couldn't be; for I never take anything till after four in the afternoon. Maybe I had omitted to put on the change of flannel that Mrs. G. had laid out for me that morning. Hardly, for I remember remarking to Mr. G. as I looked them down with a case knife, "Will you never remember when you buy second-hand garments for me to measure me for 'em?"

That flannel was on, then, unquestionably; but it didn't warm me. Maybe the boys had been fooling with the thermometer, and got it below zero. This looked most likely, for I noticed that quite a "cold snap" had come up in the office within a few minutes after the reduction news. I kept on receiving, and the vital heat reducing. Maybe the hash I ate for breakfast had soured on my stomach. It was a good thing, then, that I had got it down before it soured. So much clear gain. Maybe I had run against a draft. Wrong again; for I hadn't been in the habit of it, even in war times. My vital temperature was going down at the rate of fifty per cent. a minute; the last quotation got down so low I went for my overcoat, and then fell into a train of reflections.

Usually I don't have time to patronize these trains much, but to-day I saw so many old friends aboard, and all in about the same frame of mind as myself, I joined them. In this train we flew back over the long years of hard and faithful labor for the good of the company, and now our "train of thought" was lit up by the lurid glare of the great fire of 1866, when operators "did squeak and gibber in the streets of Portland," as, weighted down with basket loads of telegraph instruments, they ran onward through the scorching flames, hedged in by narrow streets and towering edifices of tottering brick. Looking narrowly at the picture, I saw in the cellar of the W. U. Telegraph office my own lugubrious self, with Mr. Austin, taking down the main battery, packing it in large boxes, lifting with a strength vouchsafed for the occasion alone, and then finding, as we reached the street, that our effort had been idle, the enveloping fire narrowing its limits, circling us in, and obliging us to run for our lives.

It is said that "death loves a shining mark," and as we were out in our "Sunday clothes," because it was Fourth of July, there were many "shining marks" that night in the neighborhood of the W. U. office. Among these were Superintendent J. S. Bedlow, C. C. Bedlow, J. G. Smith, C. L. Goodwin, Merrill, Wentworth, Barker, Austin, Rand, Crane, Shaw, and others.

At one time, when we streaked it round the fiery corner of Exchange and Middle streets, Death might have got the best of some of us, and not half tried; but—he didn't.

As "shining marks," however, we were no longer a success, for what the flames, ashes, and cinders had not scorched, tarnished, and spoiled of our garments, the battery acid had played the deuce with; so that, in the graphic language of Mrs. G. to one of the heroes of that night, as he was trying to pull off what was left of a \$14 pair of boots, "If it's all the same to you, Oney, I wish you'd sleep in the coal-pen to night; I don't want such a heap of soot, ashes, and rags as you are in my best bed."

"This soot, ashes, and rags," said I, with a tragic air, "is a wreath of honor on my brow. It is like the bullet-torn garments of the wounded soldier who crept to the camp, upholding with superhuman strength the flag of his country, that it might not touch the ground! Thus did Austin and I upbear the heavy boxes of telegraph property away from the hungry flames. Whether those boxes touched the ground or not is not so clear in my mind as the fact that they will never touch the ground again, for the flames received them from our hands and carried them up still higher, but our effort still lives, and will live so long as—"

Here Mrs. G. told me if I ran on in this way I should not get the dish out in time for the milk.

She always checks my "running on in this way." But the truth of death to me, and, passing through the mists of the infernal green I saw

us operators sitting hour after hour, for days and weeks thereafter, sending and receiving the great volume of business that the fire caused to pour in upon us, and hankering for a "special remembrance" by the company, which came shortly in a communication from the General Superintendent, saying, "Portland operators shall be specially remembered, etc.," and we fell to estimating what it might be.

Maybe a brown-stone front apiece, with an "elevator" and carriage-way.

Mrs. G. said she would dispense with the carriage-way if she could have immovable wash-tubs.

In 1867 we thought maybe the "remembrance" might come Thanksgiving Day, in the shape of a land-locked salmon, or a barn-yard-locked turkey.

As 1868 dawned upon us, we did not have much stock in the "remembrance," further than a trembling hope that it might arrive, perhaps, when we were least expecting it, in the shape of a share or two of the projected Northern Aroostook Railroad.

In 1869 "remembrance" stock went down almost a hundred per cent.

In 1870 there was a "bang up" circus here; I wouldn't have cared if the "remembrance" had admitted me and the family.

In 1871 I would have called it square for a box of bed-bug poison.

In 1872 I would have accepted a fine-tooth comb as payment in full for all my ruined clothing and extra hours of hard service, and no questions asked.

In 1873 I would have swapped the "remembrance" for a sick rooster, and—killed the rooster.

In 1874, had a brother operator whispered "remembrance" in my ear, I would have lit on him.

In 1875, ditto.

In 1876—sweet year of the Centennial! Fit season for "remembrance," and lo, it came at last, viz:

General reduction of salaries!

It came like the olive branch in the mouth of the storm-beaten dove, a message of peace and amnesty, showing that the company remembered us.

Some of the boys saw in it a suggestion of economy. They must stop wearing seventeen-dollar boots, seventy-five dollar ulsters, and silk undershirts; must retrench on canvas-backs and fricassed pheasants.

Their champagne must be English ale, at only fifteen cents a glass, and their "diminished" an ordinary span. A one hundred dollar man said: "This approaches the right principle; when I had twenty dollars a month, as mistress of a Duxbury office, I lived on the fat of the land, and played two games of billiards after dinner every day; but now I have to wear an old hat and patch my old clothes."

As for me, I looked at the "remembrance" from another standpoint. My pride and ambition had soared to a remarkable height. I was dwelling in the clouds of anticipation, and "living on" like one and a half-story dwelling, in the suburbs—once had vision of a second floor in the "Mansion," but the "remembrance" brought me down. You have seen a pig driven?

When we first worked for an "elevator" we were on a level with a horse, mule, and cow, and treated them on humane and humane grounds. There is no question but we were on the same level in order to try to increase on this basis, as we were to lay up treasure on the earth. My creature is a horse. I can see in the future of my bank, now and not long ago, how I have on a horse that bank, to my other.

Had I been a horse, my best time would have been thought for the future.

"The word to be remembered" was a word right enough, but it was

THOMAS STANLEY.

The Magic Pen ;

ON THE FORTUNES OF BARNEY STUBBS

BY CHOPIN.

CHAPTER I.

Barney Stubbs was a plug operator. For the purpose of the uninitiated we would say, that a plug occupies but a mere doubtful position on a telegraph line—lies the fifth wheel of a ship.

There is no doubt but what Barney was a plug. There was only one point that his neighbors and fellow-workers on the line could agree upon unanimously and that was in denouncing Barney Stubbs as a hopeless, irreparable plug. All new comers found it out before they had worked a week on the line, and Barney had been told by those who ought to have known, time and time and again, that he was a plug, an outrageous plug, and a plug of the first magnitude.

Notwithstanding such excellent authority to the contrary, Barney labored under the hallucination that he was an operator for quite a long time; but at last he was forced to admit the disagreeable truth himself. When the conviction finally came home to him that he was really a hopeless case, so far as the dots and dashes were concerned, a thorough out-and-out plug, Barney burst into tears, and resorted to a lawyer, and a lawyer he might have been in the joy and pride of that honorable profession, and to the great loss of our own, but for an unforeseen occurrence which somewhat changed the aspects of affairs, and drove all thought of abandoning the business completely out of his head.

It was the night before the glorious Fourth. Tim, the messenger boy, was minding the office while Barney had his supper. Tim was a great admirer of the electric machine, and was diligently at work copper-plating the stove poker in the local battery when Barney entered. Barney had stopped on his way from supper to procure some supplies necessary for a proper observance of the Fourth, and now proceeded to lay out before the astonished Tim sundry packages, among which was a pound of gunpowder, a box of caps, a pound of tallow candles, and last, but not least, a three-dollar shot gun, hired for the occasion at a neighboring hardware store for the modest sum of fifty cents.

"That is a splendid weapon, Tim," said Barney, examining the stock of his gun critically, "won't I wake 'em up in the morning!" Taking aim at the switch-board he continued in tragic tones, "'I am Neverfail, and this is Suredeath.' Tim, if you was a redskin, now what a slim chance you'd stand; I could wipe you out quicker'n no time."

The expression on Barney's face was heroic and terrific. Tim had his own ideas about firearms, and firmly believed that a gun might go off whether it was loaded or not.

This unusual display in the hands of an amateur did not tend to reassure him, so bidding Barney good night, he took a somewhat hasty departure.

Barney was disgusted at not having an audience to witness his next performance, which consisted of going through the manuel of arms according to Up-ton, with some original modifications to suit his own taste. But at last an unlucky attempt to right shoulder shift brought the muzzle of the gun in contact with the lamp chimney, reducing the latter to atoms. Barney had no other lamp, so he put away his gun and lit one of the tallow dips, using the ink-stand for a candlestick. He had purchased the candles for the purpose of illuminating the office the next evening, and as he sat admiring the effect he could hardly refrain from lighting the whole pound just to see how it would look. At last he was roused by a call from the instrument.

Barney went to the key and answered somewhat hesitantly. He always answered reluctantly, but

on this occasion he had special cause for anxiety for the call was from X—.

Now, X— was a young lady operator some twenty odd miles away, who always took great delight in tormenting Barney, and in driving him to the very verge of distraction by sending at a rate of speed almost impossible for him to copy. She always wound up by calling him a plug, and Barney always answered her with fear and trembling.

"Come, Barney," X— wrote, "I have two or three long ones for you, and my beau is waiting for me, so hurry up."

Barney took up a pen mechanically. Fast and furious come the dots and dashes, and Barney's copy soon had the appearance of a very badly written sheet of phonography.

"May the foul fiend fly away with X—!" cried Barney at last, throwing down his pen in a great rage.

"You are complimentary to-night, Master Stubbs," said a quiet voice at his elbow.

Barney turned around. Close beside him sat a little old man, so brown and wrinkled up that Barney thought he must have been more than a hundred years old. But his eyes were very bright, and he was smoking a short, black pipe, with every appearance of being perfectly at home.

"When did you come in here?" said Barney, at length.

"Just now," said the little old man.

"You didn't come in by the door," said Barney positively.

"Oh, no! I came through the key-hole."

Barney contemplated the stranger in amazement for some moments without speaking, but at last he became conscious that X— had been sending all the time, and was now some fifty words ahead.

With a peevish "Bah!" he turned and opened the key.

"X— is rather too many guns for you to-night, Barney," said the intruder again.

"Are you an operator?" Barney asked, a gleam of hope lighting up his anxious countenance.

"I used to operate once, and do now occasionally, though my operations are generally conducted on a larger scale than this; let me see if I can take the message."

Barney got up, and his queer visitor seating himself at the instrument, and producing a long black penholder with a queer shaped gold pen, he told X— to go ahead. In a very short space of time the whole message was neatly copied, and X— was asking "who is at the key?" in a terrible state of doubt and curiosity.

"You must be a first-class operator," said Barney, very much astonished by the whole proceeding.

"No, Barney," said the little old man, quietly, "I am no operator at all; it's all in the pen. Any one who has such a pen as this can copy anything that is sent over the wires without the least trouble in the world. It is a magic pen, Barney, and I have come on purpose to bring it to you."

"Is that so!" exclaimed Barney, "what do you ask for it?"

"Only a trifle; just a lock of your hair."

"In other words, you want me, body and soul," said Barney, boldly. "I know who you are: you are old Hornie himself, and I wouldn't give you so much as a pairing of my thumb nail—no, not for all the pens in the world!"

The little old man settled back in his chair and smoked vigorously for some moments without speaking. The smoke rose in clouds, and seemed to form itself into queer shaped figures of diminutive men and women, who chased each other through the air and around the ceiling.

At last he said, "Barney, you are a foolish boy, and don't know what is good for you. What dif-

ference can one Stubb the more or less make to me. No, Barney, I have had my eye on you for some time, and it has really made me feel sad to see you snubbed by all the operators and wasting your time in this office, when you are capable of doing so much better. I am friendly disposed toward you, and mean to make a man of you if your obstinacy does not prevent me. You and I will take a peep at the outside world Barney, and I will show you a thing or two that will open your eyes wonderfully."

Here the little old man took his pipe from his mouth and gave Barney such a diabolical wink that our hero nearly fell out of his chair.

"See here," said Barney, thoughtfully, "I've often read about your making such bargains with people before, and you always gave them a chance to —"

"Never mind the rest, Barney," interrupted the stranger, "I see what you're aiming at. You are an ungrateful plug and no mistake; but come, you shall have as good a chance as ever a man had, for, as I said before, I am disposed to do you a good turn whether I make anything out of it or not. You shall keep the pen for one year, and at the end of that time I will call upon you and will agree to take one thousand words of press from you without a single brake, or else forfeit all claim for payment in any way, shape, or manner. Of course, I am to use one of those common pens that your company are so stingy of, and make a good, square copy."

"But," said Barney, "your pen would do me no good so far as sending is concerned."

"You're wrong there, Barney; all you have to do is to stick the pen behind your ear—your left ear, mind—and you can send at the rate of sixty words a minute if you like. Just try it."

Barney took the pen from his new friend, and stuck it behind his ear according to directions.

"Great spoons!" he exclaimed, after rattling at the key a few minutes, "I wish X— was here now, how I would salt her!"

As if in answer to his wish X— began to call at that very moment. She had returned with another message although it was quite late.

With some misgivings Barney grasped the magic pen, and told her to go ahead.

But his doubts vanished as he found how easily he could copy, and X—, somewhat nettled at finding her victim clearly beyond her reach, snapped out a crusty "good night," and went home, without further conversation.

"Glorious!" exclaimed Barney, as he turned to jog the stranger with a "see there," but the chair was empty; the little old man had disappeared.

[TO BE CONCLUDED IN NEXT ISSUE.]

PECULIAR EFFECTS OF LIGHTNING ON VINES.—

At a recent meeting of the *Société Hébraïque des Sciences Naturelles*, Professor Dufour mentioned a lightning stroke which in the month of June last struck simultaneously two vineyards, distant over 360 feet apart. In one, the surface affected measured fifty-seven feet square, and included some 330 vines. In the other the surface was about thirty-two feet square, and 100 vines appeared to be destroyed, while others were partially so. In August, however, those vines which appeared to be the most severely injured threw out vigorous branches, and early in September were covered with new bunches of young grapes. But, on the other hand, those grapes already started, and which, had the lightning not intervened, would have formed the year's crop, ceased all development.

In his treatise on lightning, Arago cites, as remarkable facts of rare occurrence, lightning strokes apparently divided into two or three branches. Here, however, the lightning divided into two branches to strike vineyards considerably distant from each other, and then the branches must have produced 330 and 100 jets respectively in order to strike the separate vines.

SCIENTIFIC NOTES.

Gray's System of Harmonic Telegraphy.

Considerable attention has been drawn to Mr. Gray's exhibition of his method of transmitting and receiving dispatches by what he calls the harmonic system lately at Milwaukee, as already reported in *THE OPERATOR*. To assist in comprehending what this principle is, it may be well to state a few fundamental truths of the science of sound. Sound consists of certain waves which are passed along in the air, and which are called "aerial vibrations." The rate of vibration establishes the character of the sound, or its "pitch." Suppose a steel rod to be set in motion at the rate, say, of 175 vibrations to the second. It will give forth a low, bass tone. Increase the rate steadily, and the sound will go up the scale from one note to another. Every object has its key-note. If the reader will wet his finger and then rub it along the edge of a tumbler, the glass will give out a certain musical note. Let him then take a flute and play the scale. When he sounds the other notes the glass will be dumb, but when he sounds the particular note which the glass emitted, supposing the sound to be loud enough, the glass will respond with the same note. So every object has a note to which it is as faithful as Diana, rejecting all others, and responding to it alone. This fact is the basis of Mr. Gray's system of harmonic telegraphy.

First as to the transmitter. A steel bar is filed down to a certain pitch, that is, to a certain number of vibrations per second, like a tuning-fork. This is placed between two electric magnets, like those used in ordinary telegraph instruments. One of these is stronger than the other. Of course, the stronger magnet will attract the steel bar, and would retain it in a stationary condition, but for a contrivance to prevent that result. This consists of a spring on either side of the steel bar. When the bar touches the coil, the spring touches a wire, which shuts off the current, and the attraction of the coil for the bar instantly ceases. The bar then flies to the other magnet, where the process is repeated, and so it continues to vibrate between the two, the rate of vibration being uniformly that to which it is "tuned." This instrument is operated on by a small local battery. There is also a main battery of, say, fifty cells. This battery sends a constant current over the line to the receiving office without producing any other effect than that which is produced by a current passing through a circuit in the Morse system. But if the battery is connected with the vibrator, the current is cut up into pulsations of the steel bar, and in that form reaches the receiving office. For this purpose an ordinary Morse key is used. When the key is closed, the main line is connected with the vibrator, and the vibrations are sent over the wire. When the key is opened, the vibrator has no effect upon the current that is passing over the main line. The effect at the receiving office is this: When the key is closed, the receiving bar vibrates at the same rate as the sending bar, and emits a corresponding tone. When the key is open the pulsations are not communicated, and the receiving bar is silent. It will be easily seen how the manipulations of the Morse key at the sending office can be made to produce the effect of dots and dashes at the receiving office.

In the experiment in Milwaukee above referred to, there were eight of these instruments, each having its own battery, but all connected with one wire. Over this wire the vibrations of all these eight transmitters were sent at once in a promiscuous jumble. The question will immediately suggest itself, how was the confusion of sound interpreted? How were the eight messages separated each from the

to this is found in the principle of the science of sound which was stated at the beginning of this article. Each of the bars in the transmitting instruments is tuned to a separate tone, or rate of vibration. So on each of the receiving-instruments there is a bar tuned to correspond with one of the bars at the other end. Each of these bars are placed on a sounding box, which is also tuned to correspond with it, the object being to increase the sound, so as to make it intelligible to the receiving operator. As the jargon of sounds or pulsations passes over the wire, each receiver picks out and repeats the tone to which it is tuned, and is silent as to the others. Thus the Babel is sifted and distributed. It is as if eight persons were talking in a room. To one person standing in the middle and listening to all, the noise would be quite unintelligible, but if each of the talkers address himself to a single listener, the latter might be able to understand.

WHAT, asks a correspondent of the *Scientific American*, are the lowest, mean, and greatest velocities of electricity through a suspended copper wire? What is the mean velocity through a buried wire, an overhead telegraph wire, and the Atlantic cable, respectively? As electricity has no defined velocity, but differs with the circumstances under which it travels, the size of the wire, length of the wire, and distance of the wire from the ground. The velocity of the current on the Western Union telegraph wires varies from 15,000 to 75,000 miles per second. On the Atlantic cable, for about two-tenths of a second after contact is made with the battery, no effect is perceptible on the opposite side of the ocean. After four-tenths of a second the received current is about seven per cent. of the maximum current. One second after contact the current will reach about half its final strength, and after about three seconds its full strength.

THE best method of amalgamating zincs is said to consist in immersing the zinc in a liquid composed of nitrate of mercury and hydrochloric acid, which is prepared by dissolving one ounce of mercury in five ounces of aqua regia (nitric acid one part, hydrochloric acid three parts), and adding five ounces hydrochloric acid.

Food for Reflection.

It is a settled fact, says a correspondent, referring to what "one of the girls" said of the lunch room in a late issue of *THE OPERATOR*, that bread (or meat) is "the staff of life," and that fruits, fancy drinks, etc., are merely to furnish bulk or to add palatableness to things otherwise plain. A private lunch can be gotten up very economically and without disadvantage. The chief objections to "carrying your dinner" are, first, the trouble; second, the fact that it must be eaten cold, and third, a feeling of pride which suggests the idea that we are not so stylish as some of our associates.

Now, many people, including your humble servant, have made bread and fruit their sole diet for shorter or longer periods; some do it permanently. By adopting this plan, or even a modification of it, the objections above mentioned will vanish. Carrying bread and apples, (or jelly, or sauce), can be very conveniently done, and these things taste as well without being heated as with. In conclusion I would say that I like this plan of living very well, and have no desire to change from it. To those wishing to adopt this "State's prison diet" (satirical name don't hurt a good thing,) I would say don't try it at all unless you mind fully make up to try it faithfully. In speaking of bread I refer to that made of whole grain. White bread and baker's Graham are poor apologies for a "red life sustainer." Communicate with "The Health Food Company," 137 Eighth Street.

FOREIGN NOTES.

THE Suez-Aden section of the Eastern Company's cable is still broken down. The Chiltern has arrived at Aden, but the repairs are still incomplete.

THE traffic receipts of the Direct Spanish Telegraph Company for the month of December, 1875, were £1,375 13s. 2d.—say, \$6,875—against £1,271 15s. 4d.—say, \$6,355—in the corresponding period of last year.

It has recently been recommended by M. Saint Edme that lightning conductors should be constructed entirely of iron, protected by a coating of electro-deposited nickel.

THE Anglo-American Company's receipts for Saturday, January 8th, at 3s.—75 cents—per word, amounted to £2,040—\$10,200—and for Sunday to £630—\$3,150—against an actual average in January last year, at a dollar a word of £1,785, or \$8,925.

Nature says that a French clerical journal maintains that the tolling of the church bell is of much greater efficacy than the use of lightning-rods in warding off the effect of a thunderstorm, and advises the faithful to resort to the former means in preference to the latter.

DURING a heavy gale off Madeira the line end of the Lisbon-Madeira section of cable was broken. It was repaired in a few days, the fault evidently being easily accessible. The Hawk was dispatched at once, and will not now be required, as the repairs were completed shortly after her departure.

THE TELEGRAPH IN CENTRAL AFRICA.—A letter recently received at Washington from General Colston, dated El Obeyd, Cardofan, Oct. 28th, says that Mr. Glegler, a German, who is general telegraph agent for all the Soudan, has completed the telegraph line from Cairo to El Obeyd, and opened an office in the latter place. Thus is telegraphic communication established with the very heart of the African continent.

THE London *World* thus describes a new device for burying the dead: "You are placed in a glass box, to the top of which is affixed a metal rod. As soon as the earth is filled in, a battery is connected with the rod, and an electric shock shatters the coffin into a thousand pieces, thus allowing the earth to press upon the dear departed, and causing him to return to dust even quicker than in one of Mr. Seymour Haden's wicker baskets."

GEORGE W. F. HOOGVEEN, Haarlem, Netherlands, has recently obtained a patent on an improved electric cable and conductor. He proposes a series of telegraph wires, which are covered with a silk percha, and sewn within a covering of sail cloth made perfectly impervious to moisture and other disturbing agencies, by being impregnated and coated with highly insulating material. The latter is a mixture of paraffin and glycerin, provided on the outside with a coat of coal tar and sulphur, and having on the inside a coat of rubber varnish and benzine.

THE inhabitants of the Orkney and Shetland Islands have a grievance, and, like their neighbors on the larger islands of Great Britain, they have had a meeting and passed resolutions. They are only seventy thousand in number, and their islands are, as they say, "no more than the bottom of the United Kingdom," but they are anxious for all the greatest privileges, that of the sending telegrams. Considering, in the words of the first resolution, the extent of their trade, and the number of ships which are compelled to take refuge in their harbors, we think the public will agree that the Orkney and Shetland Islands ought to be brought within the limits of the post office telegraph, especially as they request such an inclusion as a privilege from which they are improperly shut out.

According to the *Allysian Journal*, Samuel Thomas Seamen was the inventor of the wireless telegraph. He made known his invention in 1840, and it was adopted by Baron Steiner, Vice Consul at St. Petersburg, who made experiments in 1841, and in 1842 made improvements in 1843, and exhibited his apparatus at a scientific congress in London. He, Prof. Morse, of Haverhill, was present and afterwards constructed an apparatus which he showed to William Pottersall Cooke, who went to London in 1844, and with Prof. Wheatstone made an experiment for the purpose of introducing telegraphs on the London railway. The first telegraph station in England was built at Faversham in 1847, and Cooke and Wheatstone were the first to establish a telegraph line between Faversham and London in 1847.

The Operator.

THE ORGAN OF THE

United States and Canadian Telegraph Operators.

W. J. JOHNSTON, - - - Editor.

February 15th, 1876.

NOTICE.

THE OPERATOR IS REGULARLY ON SALE AT THE POSTOFFICE COUNTER, WESTERN UNION BUILDING, THIS CITY. THE BINDERS CAN ALSO BE OBTAINED AT THE SAME PLACE.

A FACT—It is a pleasure to our readers and subscribers, and our friends in all parts of the country, who have contributed so much to our success, to know that the circulation of THE OPERATOR to-day is more than four times as great as it was one year ago.

WHEN requesting a change of address, subscribers will please give their former as well as their present address.

WE always stop THE OPERATOR at the expiration of the year, or of the time for which it is paid; so that if you wish to continue it, it would be well to renew your subscription at least one week before the time expires.

WHENEVER an operator sees anything in his local paper which he thinks would be interesting to the readers of THE OPERATOR, he will confer a great favor by marking the piece and mailing it to us, P. O. Box 3,332, New York.

LETTERS from New Orleans, Milwaukee, Springfield, and one from California will appear next issue.

No matter what you want in New York, write to us and we will get and send it to you at lowest price—whether it be a set of telegraph instruments, a gold watch, or only a book.

WE are very sorry to learn that Mr. S. B. Van Nortwick, of "Hu" office, Jersey City, lost his only daughter on Saturday morning last by diphtheria, aged one year and eight months. Mr. Nortwick has our warmest sympathy.

WE are so crowded in the card department that some names will be delayed a few days. We are doing our utmost, but they have been coming in so very fast that we were compelled to withdraw the offer on account of the delay.

THE binders are having a gratifying sale, and every one speaks very highly of their appearance. They are made specially for this paper of full cloth with heavy board sides, and will last for several years. Necessary for any one wishing to preserve the paper. Sent by mail, post-paid, for the low price of \$1.10. Address this office.

THE TELEGRAPHIC SEVENING, advertised in another part of this paper, is a spicy little book of some fifty pages, and contains original and selected articles, chronological tables, statistical information, instructions for learning telegraphy, short stories, jokes, witticisms, bulls, and much information which will be instructive and amusing to those in any way connected with the business. Mr. Huntington is a practical telegrapher, and we wish him every success in his literary venture.

THE A. & P. have lately opened offices at Walkin's Hotel in 59th Street, New York, and at Broadway and Fourth Street, Williamsburgh. Their office in Kittle's book store, Sixth Avenue near 44th Street, has been moved one block farther down.

End of Volume Four.

With this number we complete our fourth volume. It is with feelings of great satisfaction that we look back over the past, and see the very rapid strides THE OPERATOR has made since it was first established.

It has had seasons of shade and sunshine. It has had difficulties to contend against, obstacles to overcome, and enemies to fight; but it has also had its gleams of sunshine. "If you want enemies," says Colton, "excel others; if you want friends, let others excel you." We have had such enemies jealous of our success. Even the Western Union Telegraph Company has stooped to conquer us, but signally failed. Like the sturdy oak, which storms only serve to strengthen, our little paper has increased in circulation, influence, and usefulness in exact proportion as it has met with opposition. It would have been a sad day for telegraphers had the company succeeded in suppressing their only mouthpiece. But the smallest worm will turn, being trodden on, and doves will peck in safeguard of their blood.

We want to have every telegrapher in this country among our readers. This result can only be achieved by the hearty co-operation of our friends. If they will draw the attention of those who have not hitherto seen the paper, and give them a chance to see, at least, what the paper is, we do not doubt but that at the end of volume five our paper will be even more prosperous and the future look even more brilliant and promising than it does to-day.

Please Consider This Personal.

"Why didn't you let us know of your paper long ago? I feel that I have lost a good deal by not having it in the start."

We get several such letters every week. Won't our friends assist us in introducing the paper among those operators who have not as yet seen it, and do not, many of them, even know that such a publication is in existence. We respectfully ask, as a special favor, that every one of our subscribers, who does not save and bind the paper, will send his copy, after reading it, to some operator in his neighborhood or among his acquaintances with a recommendation that he add his name to our list, and become a member of that great family whose mouthpiece we have the honor to be. Those not regular subscribers, who may receive a copy in this way, will please examine the same and subscribe if they like the paper, and then start the copy again on its travels by forwarding to some other office. Let that operator do the same, and so on. A great deal of good can be done in this manner, and we rely upon every individual subscriber as above entering into the spirit of the thing heartily, and with a determination to do all in his power to aid in increasing the number of our readers. That the paper should be in the hands of every telegrapher in the country all will admit. Let us see, then, what you can do toward attaining this very desirable result.

Those who can get up clubs, large or small, will oblige us by doing so. The premiums are very liberal, and goods offered strictly first-class. If a few extra copies can be used at any time to advantage, please let us know and they will be forwarded free. As volume five commences next issue, the present is a good time to commence new subscriptions.

The New York Telegrapher's Association.

A meeting of the above mentioned association was held Monday, February 8th, and was very largely attended. The treasurer's report was read and adopted, and a vote of thanks tendered to the officers and committees. A discussion followed as to the feasibility of the Association giving a small afternoon and evening excursion during the summer to Pleasant Valley, in which nearly all telegraphers in the city could participate. The meeting then adjourned, to meet again at the call of the Chair. The following is the treasurer's report. It will be seen that the Association has still a little money on hand toward the next ball or excursion.

New York, Dec. 13, 1875.

D. W. McANEENY, President N. Y. T. A.

I hereby respectfully submit my report as Treasurer of the New York Telegraphers' Association to date:

Received from former treasurer....	\$25.00
" " subscriptions.....	335.00
" " at hall.....	176.00
Total receipts.....	\$536.00
EXPENDITURES.	
Rent of hall.....	\$75.00
Refreshments.....	22.50
Music.....	157.00
Printing.....	137.00
Decorations.....	75.00
Badges.....	15.00
Postage.....	5.00
Door-keeper.....	5.00
Total expenditures.....	\$489.50
Cash on hand.....	\$46.50

JOHN H. DWIGHT, Treasurer.

Proposed Telegraphers' Ball in Chicago.

The success attending the late ball of the New York Telegraphers' Association, reported in the last issue of THE OPERATOR, appears to have fired the hearts of the knights of the key in the Garden City. At all events, they held a meeting at Parlor No. 1, Grand Pacific Hotel, on the sixth inst, and elected Messrs. Huyck, Kelly, Whitford, Anderson, Clifford, Stanbery, Bracken, Gale, Carroll, McRobie, Long, "We," Knapp, and Gilpin a committee of arrangements for the purpose of getting up a grand telegraphers' ball, with power to add to their number. An executive committee will be chosen hereafter. Another meeting is to be held in the same place to decide as to the time and place of the ball. Nearly all were in favor of obtaining the Grand Pacific Hotel Parlors and Dining Room for the occasion. Mr. Knapp kindly tendered the use of his private room to the committee for their deliberations. On motion it was ordered that the proceedings of the meeting be published in the daily papers and in the telegraphic journals. A vote of thanks was tendered to the proprietors of the Grand Pacific, and the meeting adjourned subject to the call of the chairman.

THE office at Portsmouth, N. H., is very highly spoken of. New instruments, furniture, and everything necessary to promote comfort has been supplied by the company, while the manager and assistants, two skillful and accommodating ladies, have entered into the general spirit of improvement by adorning the walls with pictures. The low hum of two sewing machines, mingling with the intelligent clatter of four handsome little sounders, goes far toward transforming the place into a little terrestrial paradise. During the summer months the operators have all they can attend to; the travel to the beaches, the Isles of Shoals, and other attractive resorts in the vicinity, materially increasing the local business, but at present the work is comparatively light.

Philadelphia's New Office.

The Centennial City is to have a new Western Union office in one of the finest structures the city can boast of, built by the Mutual Insurance Co., and situated on the northwest corner of Tenth and Chestnut streets. It is promised that the office will be quite a grand affair, and that all the modern improvements and appliances for insuring dispatch in the handling of business and the comforts, both of the employes and the public, will be concentrated within its walls.

The present force will all be there, it is hoped, with, of course, a number of extra men to "help them out" during the Exhibition. There will be the inflationists, Messrs. Pussey and Eves, with their prompter, Monroe—sometimes called Boss Guyer. They are in their elements when a country operator comes down to be shown around the office. Mr. Jones will be found with a sober expression of countenance, while that old timer, Mingle, will continue to mingle with his old acquaintances. Buckwell will still report incoming operator vessels, while a Ray will do the grand on Wilmington. Then there's one who will be a Gross in himself, and also a Wild man. When a Canron is to be fired in honor of a ration's birthday, there will always be found a Shott in the office. Volrath will be there, so will Gregg and Hartman, the former doing quick time on Lancaster, and the latter terrifying Harrisburg. Clinger will still hang on to Baltimore, and in the corner will be found the genial Osmond, killing Boston men as usual. The entrances to this house of *par excellence* will, of course, be through the Hall. Bobbie Meyers will be heard giving Chicago an account of his adventures in Europe, while Henneberry will be as anxious to rush some poor unfortunate as ever. Then there is Moody—not of preaching fame—Foley attending to Pottsville's wants, Loughrey, stage struck, the rival of Billy Carroll, and Shive, the new recruit to a rimony. This comprises the day force.

At five P.M. the owls will be on hand. Chief Zeublin, the most affable man in the office, and Messrs. Moore, McCree, Black, Maire Brothers, Christie, and Dillon, the coming man. This is but a synopsis of the force, but we must not forget the worthy manager, "Ro," one of the Company's shining lights, and beloved by all the boys. We think we see Porter & Rylie, at the south side, manipulating the quad, and Davis and Merrihew with the switch, looking for a lineman. We forgot to mention the "very quick" Bradley, of Pittsburg; also Joe Godfrey, who haunts Allentown, and Anderson, now practicing for the P. R.

Answers to Correspondents.

When a young man sends to a young lady (known to him by sight only) a heart on paper with his name, what does it signify? F. W. B.

It signifies, to our mind, that the young man doesn't know his business. This is leap year, and all such little attentions should proceed from the other side of the house.

BEN says: "See circular inclosed. Will you please investigate and answer if there is such a firm operating in stocks, and if so, if they are considered O. K. Answer in next OPERATOR, and oblige one of the fraternity."

The firm of Buckwalter & Co. is graded in the Business Agencies of this city as not being recommended for credit under any circumstances. Give them a wide berth, and we would kindly advise you to leave stocks severely alone.

SUBSCRIBER: Write to Capt. H. W. Howgate, Chief Signal Office, Washington, D. C., for a circular containing full particulars. You must enlist for a term of five years. Pay about \$63 a month. You are liable to be sent away out to the wilds of Texas or Arizona, and life in that vicinity is not always a pathway of roses. One of the U. S. operators writes us last week: "It would make your hair stand on end to hear of the danger our operators undergo. All that the people wear here is a straw hat and a pair of six-shooters."

DOMESTIC NOTES.

AMEZON CHURCH for A. M. E. Zion Church is on one of the A. & P. men in this city.

We find that 16 Erie is not strictly a new circuit, though different arrangements for business made recently make it practically so.

B., of the Brooklyn wire, wants to know if seven cats can kill seven rats in seven minutes, how many cats it will take to kill 100 rats in fifty minutes. Answers can be sent to this office.

A GENTLEMAN in this city called an American District Telegraph messenger one day last week, and sent him for some pistol cartridges. On his return he told him to load the pistol. Then handing the boy five dollars for himself and one to pay for the message, he asked him to remain until he (the gentleman) blew out his brains, at the same time raising the trigger and placing the pistol to his head. This was too much for the boy. He opened the door and went down stairs with as little delay as possible, nor did he feel safe until he was in the office again. Two days afterward the morning papers announced the finding of the gentleman's body in his room with a bullet in his brain.

A good story is told as having happened to a receiver at the Western Union main office. Of course, the regular correspondents of out-of-town newspapers are known there, and they send thousands of words every day. Well, there was a man—a Government official—who thought he would dabble in news, knowing that the genuine article has a ready sale. Something occurred in his line that he thought was very interesting. He wrote as much as would have made an average column, and ordered it sent alike to about twenty newspapers throughout the country. The receiver hesitated, but the amateur journalist said he had authority to send the stuff, and it was sent. Scarcely any of the twenty or so newspapers would receive the dispatch. Most of the editors didn't know the man it came from, and many didn't want the news anyway. So the receiver found himself charged by the company with a sum about equal to his salary for a whole year. He tried to collect it of the sender, but couldn't get it the last I knew anything about it. It is not known how the case was finally settled.

ELECTRIC SPARKS.

DON'T rain much here; on being repeated read "Don't rain much here."

LUMBARCO for Lumber Co., and J. A. Cob, for Jacob are Michiganders.

A MESSAGE out in Iowa reading, "Christie says Choat shipped to-day," was rendered "Christie says shoot Choat." Bad for Choat.

"DEATLER" for Deaton is very good, but not quite it; try again. "A. Erichson" for A. E. Richson comes near the mark; a little more practice and you will get it.

ONE of the New Haven, Conn., papers a few days ago contained the following want: "An experienced telegraph operator wishes a situation in a city office, can receive twenty-three words per minute; money not so much an object as practice."

[Signed]

The men at "N." office are very anxious to know who the energetic L. is.

LAST Tuesday a young man with short temper and long feet, who went to the office of the Western Union Telegraph, in Radford building, to send a dispatch, barely got inside the door, his toes touching the fence made. He says "the company shouldn't expect a man to crowd himself into so small a space that he has to come out backward to turn round!" and suggests a window being cut in the door. —Yonkers Graphic.

Not long since one of the Chicago branch offices having a message for the main office was unable to raise "Ch," and sent the telegram by boy with the accompanying note: "Please forward the enclosed message. Can't raise 'Ch' office. If I had a clothes line fastened to them, think it would be an improvement on the present arrangement." It so happened that this office is on a table in charge of one of the lady operators.

SOME time ago an old woman, who had been to visit some friends, was returning home on the cars. When she got off the cars she forgot her umbrella, which some of the passengers gave to the conductor, who took it in the telegraph office. Soon after the train had gone she found out her loss, and going to the office requested the operator to telegraph for it.

"All right," said he. "Take a seat."

The operator took the umbrella with two or three others and hung them on the wires by the office, when he returned, saying:

"They have sent a parcel of them. Come and pick out your own."

When she saw it she exclaimed: "Laws sakes alive! I couldn't have believed it if I hadn't seen it!" and handing the clerk a nickel, she walked off.

ONE of the best things we have heard lately in the way of a bull comes from Massachusetts. Some days since, as the story goes, the lady manager at a station not far from South Braintree, on the Old Colony Railroad, received a telegram as follows:

"To Station Agent: Deliver to E. B. Linnen Works five pairs twins."

A little staggered by the novelty of the order, the operator handed the message to the depot master, who was also at a loss to account for so much "duplexity," when they were interrupted with a call to "hold on; don't deliver—a mistake." Getting a "repeat." The message read:

"Deliver to E. B. Linnen Works five blades twine."

And now the naughty conductors plague that young lady by asking her for twine.

What They Say.

EVERY operator delighted with it down this way.

Your little paper is rich, and I hope it may live a thousand years and a day.

KEY RECEIVED. We don't think it a regular beauty. It is undoubtedly the boss key of this division.

PLEASE send THE OPERATOR as soon as possible. The men are as anxious for it as they are for their grub.—Pittsburg agent.

A NEWSPAPER MAN, not connected with the business, says he can not see how any one who professes to know the art of telegraphy, can get along without being a subscriber of THE OPERATOR.

I hope, now that you can dress your words up to the paper, that you will be as crowded with success. I have no doubt you will make it worthy of, and near the patronage of the club.

Allow me to thank you for the splendid number that was received last week. It was a real beauty. The only complaint I can make is that the paper is too good for its little trouble. I trust I can be able to get up another one before long. The paper grows better and better every time.

THE OPERATOR is becoming widely circulated and here, my dear old friend. The last week among me not to let the paper pass out of my hand when their subscription expires. I am sure some new subscribers in a few days. My subscription expires March 15th. I will renew you personally. Don't forget. I admire Johnson's spirit. Stick to my paper and we will help you.

CORRESPONDENCE.

Wednesday's Storm—A Very Interesting Romance.

PHILADELPHIA, Feb. 8th, 1876.

EDITOR OF THE OPERATOR.

Things telegraphic in the P. R. & P. Company at present are decidedly slow. Nothing of interest occurred lately, which is worth noting, with the exception of the great wind storm of Wednesday last. It rather played hob with our wires. On coming on duty this morning we found ourselves without a single wire out of Philadelphia, and only one of the branch wires good for anything. At 9 A. M. we had six wires patched up to Reading, which helped us out some. By noon we had the majority of the wires in good working condition, and before 3 o'clock were working to all points as usual. But the way things were piled up in the morning was enough to cause the hair to stand on end. It looked to me as if we were never going to get clear, for in addition to the regular commercial business our D. H. R. R. biz was something fearful to contemplate but thanks to the efforts of the manager and chief operator we managed to clear everything off with but comparatively little delay. Now it is a thing of the past, and remains only in the memories of those who participated in the mix, and on the pages of our "log."

I had intended to make some note of our branch offices in this letter, but as I will be unable to give them the attention they are justly entitled to within the limits of this letter, I will be compelled to postpone it until some future time.

We have had quite a sensation in the social circles of our force within the past week, caused by the following little incident:

The lady operator at "Bo," who signs "A," was invited to attend a ball at Pottsville, by the gentleman, "G," at "Qo," who stands high in the order of P. O. S. A., which invitation she accepted, and at the appointed time was in readiness and accompanied our little friend, who was in high spirits at his success in securing the presence of a lady so famous for her beauty and accomplishments. They went to Pottsville, put up at a fashionable hotel, and in due time appeared on the floor of the ball room. Miss "A" was not long in securing hosts of admirers, and in less than an hour she had captivated the heart of what the *Reading Eagle* calls a gay mountaineer. The gay mountaineer, by the way, is also an operator. She waltzed with the gentleman, promenaded the room by his side, and clung to him, as the same journal poetically remarks, like a sick kitten to a warm brick. Poor G. in the meantime was choking with rage, and whenever occasion offered he chided her for her perfidious and inexplicable conduct, more especially for bestowing upon the stranger such bewitchingly amorous glances.

Reproof fell on heedless ears, however, and had only the effect of rendering her still more observant of the attentions of the gay cavalier. Ten minutes later the country lass would be drinking the roseate sweets from Bacchus' ivy-wreathed goblet. Our hero could only smother his grief as best he might, and revenge himself on the fickle fair one by making a "wall flower," of himself. Thus passed away the time until the hour arrived for those in attendance to seek their respective homes and little beds. When the ball broke up our hero became petrified with astonishment, mingled with rage, upon noticing his *chere amie* come gaily forth from the banquet hall leaning lovingly upon the arm of the other fellow. His feelings at this juncture can be imagined by those who have been similarly treated. For those who have never experienced the delights of such a scene, we hope they never may. He did not, how-

ever, break forth into violence, for he only stands about five feet in his high-heeled boots, and his successful rival was a six-footer. The gentleman and lady entered the hotel where she was stopping, and after a brief conversation and a good-night kiss in the parlor, they separated, she returning to her virtuous couch to dream rosy dreams of future bliss, and he departing for his bachelor's quarters. The much-abused companion of her voyage slept on a bed of thorns the few hours intervening before daybreak. As soon as the rosy hues of morn illumined the skies he arose, paid his bill, and took the early train for home.

The female slept the sleep of innocence until long after the orb of day had appeared in the east, and after breakfast was about to leave the hotel for the depot, when the polite clerk begged her pardon, but wouldn't she please settle her bill first. If all the red paint in town, says the *Eagle*, had been applied to her face and neck, she couldn't have presented a higher color.

After gasping a while for breath, she managed to ask, in a tremulous voice, whether the gentleman who accompanied her there the previous afternoon hadn't paid her bill. Upon being told that he did not, she again became dumbfounded. She was in a quandary. Fifty-three miles from home and scarcely a red in her pocket. Fortunately, at this very moment the gentleman whose attentions had placed her in the present predicament put in an appearance. Upon learning the state of affairs, he discharged the bill and purchased a ticket for her to her abiding place. Heretofore it was customary for the lovers to converse together over the wires, but since the Pottsville ball they have become as mum as mutes. But, then, the course of true love never did run smooth.

One more item and I have done. We have a messenger boy who is a plume of somewhat extended opinions in regard to his capacity as an operator, who on last Saturday was surprised at the following:

"G. Xn: You need not come to N. K. tomorrow, for you will not be welcome. I have other company.—*Mamma.*"

The rest of the boys enjoyed it far better than he did. Yours truly, NICK O'TINE.

A Few Words from the City of Brothery Love.

PHILADELPHIA, January 29th, 1876.

TO THE EDITOR OF THE OPERATOR:

Not long ago I read your manly response to the officials of the Western Union Telegraph Co., and ever since then I have intended writing you a few friendly lines, not only in commendation of your course, but also to express what I know to be a common sentiment among the telegraph fraternity, as well as among all who toil for their bread. The attempt of corporations to make slaves of their employes, and the manifest desire of capital generally to rule and control labor, make it absolutely necessary that the working man should have some means of making known his wants, trials, privations, and persecutions. And you have kindly and manfully stepped to the front, and with a spirit of self-sacrifice worthy of all praise and commendation, filled the breach. I trust your action will be further appreciated, and the list of your subscribers double five thousand ere the close of the year. The great problem of labor and labor reform is yet to be worked out, and I hope it may be your happy lot to bring it to a final and satisfactory solution; but to do so you will not only need the active co-operation of the telegraphic profession, but you will also require the aid of all who labor for their daily existence. When the question of labor against capital becomes one of common interest among the working classes, then will the first important lesson have been learned, and the

first step taken toward achieving the result aimed at by THE OPERATOR. When each son of toil feels common interest with his fellows, then, and not until then, will the mighty power of corporations and monied influences begin to give way, and the men (?) who now seem to delight to grind the poor and oppress the needy, realize that there is a power growing in the land that they can not defy or even enjoin to step down and out as they have done in your case.

When the mechanic and all "those who gather and bind" shall make common cause, labor will be more respected, better requited, and the home of the working-man will know less want, less sadness and care. But until then things must remain as they are. You have made a grand stride, and it is to be hoped that thousands realize and appreciate it as I do, and will come to your support as they should. The suppression of the press has proven the most difficult of all difficult things. Popes, kings, princes, and men of high and low degree, have tried it, but all have signally failed. The W. U. have failed ignominiously in their attempt to suppress you. In fact, they seemed to have given you the life and energy necessary to win you the very success they feared you might enjoy. As to the merits of a corporation which is compelled to descend to the use of such a subterfuge to further enslave its employes, the public can form its own conclusions.

In closing, permit me to ask if an operator, who brings the necessary talent and ability to bear in the interest of the Western Union, in return for which he obtains the "plethoric pocket-book," is not just as much entitled to it as the Western gentleman (?) even though he is an official? If our large corporations would divide more equally and justly some of the immense sums paid for salaries to mere figure-heads, there would be no necessity for the introduction of any "sliding scales."

Yours truly,

QUAKER CITY.

The American District in Albany and Troy.

ALBANY, N. Y., Feb. 9th, 1876.

TO THE EDITOR OF THE OPERATOR:

At last Albany has the American District in full operation. The officers of the Company are, President, Clarence Rathbone; Treasurer, Warren F. Leland; Secretary and Manager, Charles H. Sewall; Directors, Messrs. Clarence Rathbone, Warren F. Leland, D. C. Herrick, P. C. Cushman, A. B. Banks, A. N. Van Benthuysen, C. H. Sewall; Executive Committee, Messrs. Rathbone, Cushman, and Banks. The central station, through an arrangement with the A. and P. Co., is in their main office, 444 Broadway, with branches at the Delavan House and State Hall. The A. and P. delivery is also done by the American District messengers, and when signalled to carry a telegram to the A. & P. office, no charge is made—foxy arrangement, eh? W. Union might make some arrangement with the fire alarm or street car lines, perhaps, in order to get even.

The American District opened for business Feb. 1st, and so far have more than paid expenses, which is by no means a bad omen. They now have over fifty boxes in circuit, and are constantly receiving new subscriptions, so there is no doubt regarding the Co.'s success under the present management. The system has just been introduced in Troy, with A. D. Collins as manager, and promises to be a success, having now about one hundred boxes in circuit.

All is quiet in this vicinity. Press business from the Legislature is larger than last year at this time, but ordinary business is decidedly smaller, on a "sliding scale." One of our "heavy men" on the messenger force recently astonished the delivery clerk by saying "the ladies advocating the Woman's Rights question would appear before the Judy-Cary Committee." The clerk had just been reading that they were to have a hearing before the Judiciary Committee. The Exchange building, which was our temporary abode after the fire, is being rapidly demolished, and will soon be a thing of the past. It's a pity to turn all those rats out this time of the year. Where's "Van?" Has he lost all interest in his friendly (?) visitors of last summer?

Here's the latest bull coming to us from Long Island. A message came addressed to Wm. Smythe, *acting* Supt. Ins. Dept. That gentleman is not ailing, but able to attend to his duties as *acting* Superintendent.

X Y Z.

PERSONAL.

J. F. WALKER is at Manchester, Ont.
 MR. N. F. ALSTON is at Warrenton, N. C.
 MR. H. C. MURRAY is at Elizabethtown, Ky.
 MR. J. M. DANIELS is manager at Camden, Ind.
 MR. GEORGE HUGHES is manager at Braddock's Field, Pa.
 MR. G. W. HEALY is with the B. C. R. & M. Railroad at Ely, Iowa.
 MISS MARY A. KINNEY is operator and manager at Greenwood, N. Y.
 MR. CHAS. A. GARLAND is agent for THE OPERATOR at Selma, Ala.
 MISS P. A. LEWIS blooms and blushes at Cornwall-on-Hudson, N. Y.
 F. LEWIS for F. L. Wells is the "way it came" to a London, Ont., artist.
 MR. GEO. E. McREYNOLDS is with the I. P. & C. Railroad, Bunker Hill, Ind.
 MR. H. C. HOPE is in the General Superintendent's office at St. Paul, Minn.
 FRANK SMITH is agent and operator for the L. L. & G. Railroad, at Gardner, Kansas.
 WILL John S. Young please send his present address to A. C. Terry, Dom. Tel. Co., Toronto.
 MR. COOPER is still the operator and assistant ticket agent for this company in the same office.
 MESSRS. Faty Stewart and Long, "Aj," of Chicago, who have been quite ill, are again on duty.
 MR. CHERRY, of Montreal, sang "Old Grimes' Cellar Door" at the telegraphers' dinner Jan. 18th.
 MR. HOLLAHAN, on the extra roll of the W. U. Co., Chicago, has accepted a situation with the A. & P., same city.
 MISS ELLA STEWARD, Woodstock, Ala., has our thanks for her "warmest 73, and best wishes for our spicy little paper."
 MR. A. B. HALL is manager of the Western Union office at Mt. Pleasant, Iowa. He is a good operator, and makes a splendid copy.
 MR. A. D. BABBITT, W. U., New Orleans, wishes the address of Mr. Charles W. Babbitt, an operator, somewhere in the west.
 MR. URY S. PALMER, manager A. & P. and C. P. Railroad, Carlin, Nev., has kindly consented to act as agent for THE OPERATOR in the Silver State.
 THE B. & O. R'y ticket office in Chicago has been removed from the corner of Clark and Washington streets to Clark Street opposite the Court House square.
 THE many friends of Hamilton Fitchett will be pleased to learn that he is fast recovering his health, and his speedy return to the ranks is confidently anticipated.
 HULL has a veteran telegraph operator, Mr. Joseph Pope, who has been connected with the marine telegraph station at that place for the term of forty-five years.
 MR. N. B. WALKER, formerly of the C. & N. W. R'y, was in Chicago last week. He has been roughing it west—visiting Denver, Cheyenne, and other places of interest.
 If Billy Shannon, ex-operator, Punta Rassa, Fla., will address the manager U. S. Mil. Telegraph, Brackettsville, Texas, he will receive by mail a horned frog.
 MR. ALFRED E. CHANTLER has our thanks for half a dozen numbers of the *St. Martin's Magazine*, a London journal, supported by the members of the Postal Telegraph service.
 MR. P. J. CASEY, of 12 West Twenty-third Street, made a most decided impression at the ball. He gracefully sat on a lady's new hat, but she forgave him, it being leap year.
 MR. HARRISON, after several months' absence, has again taken charge of the Metropolitan and American District Telegraph office at No. 54 Harmon Court, Chicago, *vice* Mr. Shillinglaw.
 ON Friday last Misses Maguire, Charlier, and Morley, of the ladies' department, and Chief J. H. Dwight, of the Western Union office, officiated at the Moody and Sankey meeting at the Hippodrome.
 TONY ELLER, an American District messenger at 791 Broadway, has a really good song in last week's *Boys of the World*. It is called the "A. D. T. Co.," and is remarkably well written for one of his age. Tony is quite a genius, and we wish him every success in the field of literature.

ALL great men have favorite sayings. Manager A. J. Burton, who looks out for the interests of the St. Nicholas Hotel, 516 Broadway, and the Prescott House, has made his favorite, "Large bodies move slowly," quite famous.

MR. HART, of Wescott's Express, 7 Park Place, is, as his name indicates, full of sympathy for the afflicted. Many touching tales might be told in connection with his generous responses to stories of woe and distress. But enough for the present.

I HAVE been taking your paper for a short time, says a correspondent at Brockville, Ont., and find it the spiciest little journal I ever read, but as yet have seen nothing from our own little town, which is considered the prettiest of its size in the Dominion.

MR. SELLIN, the telegraph operator for the Erie Railway at Castile, has a file of almanacs from 1735 to 1876. He paid two hundred dollars for the lot, and has been offered eight dollars each, or eleven hundred and twenty-eight dollars for the whole, by a member of the Centennial Committee.

MR. J. B. PAGE, whose headquarters have been at the Metropolitan Hotel for the past ten years, looks ten years younger now than he did when he first made his appearance there. The blonde Adonis doesn't seem to feel the effects of old Pop Times' assaults. May it never be otherwise.

MR. TOM MILBURN, "Texas Tom," an old timer, is manager of the U. S. Mil. Telegraph at Eagle Pass, Texas. He used to work nights for the Franklin Company at Washington, D. C. Messrs. Petrich and Dunbar and Miss Annie Palmer attend to matters at San Antonio, while Castroville is under the management of Mr. Julius Gerard, a fine looking German.

MR. J. BAKER is manager of the M. T. Co. here, and is one of the best in the business, while Mr. Chas. E. Ferguson is manager of the Dominion. We had calls from Mr. Spencer, night manager M. T. Co., Ottawa, Mr. Elliott, M. T. Co., Kingston, the latter on his way to the Parliament buildings, Ottawa, where he works during the session. They are both good boys and look well.

MESSRS. KELSEY, Milwaukee, and Haley, Cheyenne, Wyo., claim the next two watches as premiums for forty yearly subscribers each. They were both sent by registered letters, pre-paid. Mr. Hogan, Milwaukee, is so well pleased with his that he has started another club of forty. Telegraphers can not engage in a more profitable business than getting up clubs for THE OPERATOR.

MR. JACK McROBIE, one of Chicago's brightest planets, returned to his old post on the N. Y. duplex about two weeks ago, after an extended tour through Canada; but after working ten days in his accustomed seat on the night force his physician has advised him to quit it and earn his bread by daylight. "Rm" is very popular with the N. Y. owls, and his early return is earnestly hoped for.

MESSRS. ALLISON AND MILLER, operators P. D. office P. & R. Railroad, New Providence P. O., Lancaster, Pa., claim to have discovered how to clean the most difficult copper in two minutes by a new, simple, and easy method. They will send particulars to any one on receipt of twenty-five cents and a stamp. We do not, of course, indorse the discovery at all, but merely mention it for the benefit of any who may wish to try it.

"THE Day Dreams of a Sleepless Man" is the title of a book lately published in London. The author is Frank Ives Scudamore, manager of the Postal Telegraph, of whom we have heard so much on this side of the Atlantic. The articles appeared originally in the *Standard* and *Scotsman*, and, to take the *Telegraphic Journal* says, of the vivacity of a very special correspondent, and sparkle with that wit and facetiousness which is so characteristic of their author. Can not the great W. O. favor an appreciative public with a similar treat?

WM. GARLAND, formerly an operator at 145 Broadway, was on January 24th sentenced to eight years' imprisonment in the Charleston, Mass., penitentiary for forgery. The details of the crime we did not learn, but judging from Garland's previous career, we think he deserves his sentence. While employed at "145" he was detected in several petty thefts, and when he left there he managed to get away with thirty odd dollars from a brother operator, who had kindly accommodated him. He subsequently returned the money upon being threatened with prosecution, since which time hitherto nothing had been learned of him until the news of his conviction in Boston was received.

MR. F. B. PICKERING, a thorough and practical business gentleman, is manager of the Western Union at Waterloo, Ia. This office is the relay point for the northwestern part of the State, and does a good business the year round. The Illinois Central office at the same place is ably presided over by Mr. L. B. Allen, chief operator and train dispatcher, second to none in the business as an operator and gentleman. The day assistant, Mr. W. J. Tredale, manipulates east. He is a genius given to music and poetry. Miss Mary Gray, of Dubuque, receives his P's of eighteen dots without a murmur. Mr. Jim Scott, formerly of the M. K. & Texas Railroad, has lately been added to the office as night train dispatcher. Jack Bates, a New Yorker, has been appointed manager at Cedar Falls.

Married by Telegraph.

We have enjoyed the sensation of marriages at sea, marriages on steamboats, marriages by proxy, balloon weddings, and Exposition marriages, but the very latest is a matrimonial alliance by lightning. Mr. G. Scott Jeffreys, an operator of the Western Union, located at Waynesburg, Pa., and Mrs. Lida Culler, an operator, stationed at Brownsville, having agreed to take each other "for better for worse," they conceived the novel idea of having the ceremony performed by telegraph. Col. C. C. Rowe, the Superintendent of this division, entered heartily into the arrangement. The parties took a position in the operating-room at Brownsville, with three or four witnesses, including the operator. In the office at Waynesburg, Mr. G. A. Story, the operator and his family were stationed, with the mother and sister of the groom, four or five other friends, and Mr. Scott, the officiating clergyman. To prevent interruption, Col. Rowe issued the following order to all the offices in his division: "All business must be suspended on this circuit five minutes before 2 o'clock P. M. today, and to kept closed until after the marriage ceremony by telegraph, which takes place at 2 o'clock." At the very moment appointed, the tick, tick, tick, tick, announced that the ceremony had been commenced. The operators gathered about, and listened to the instrument as it told the following story:

(Brownsville to Waynesburg)
 Tell the Rev. Mr. Scott we are ready now.

(Waynesburg to Brownsville).

To G. Scott Jeffreys and Lida Culler, Brownsville, Pa.
 Marriage is an ordinance of God, for the welfare and happiness of the human family, instituted at the creation and union of the first pair, by which He ordained the union of one man with one woman in bonds of pure and holy wedlock for life. The parties to be united at this time please to join hands.

[Signed] J. W. Scott, Minister of the Gospel.

(Brownsville to Waynesburg)

It is done.

(Waynesburg to Brownsville)

Do you, George Scott Jeffreys and Lida Culler, who hold each other by the hand, take each other as lawful and wedded companions for life, and do you solemnly promise, before God and the witnesses present, that you will live together, and be true to each other faithful, loving, and true as husband and wife, till God shall separate you by death?

[Signed] J. W. Scott, Minister of the Gospel.

(Brownsville to Waynesburg)

"We do."

[Signed] George Scott Jeffreys.

"We do."

[Signed] Lida Culler.

(Waynesburg to Brownsville)

In the name and by the authority of God, I now pronounce you husband and wife. With God and with man joined together let no man put asunder. And may God the Father, Son, and Holy Ghost bless you and your union, and yourselves individually and jointly, now and forever. Amen.

[Signed] J. W. Scott, Minister of the Gospel.

(Brownsville to Waynesburg)

"Thank you."

This concluded the ceremony, and at some time afterward the witnesses made the congratulations to the newly married couple.

Prince Edward Island Notes.

To the Editor of THE OPERATOR.

We have about thirty offices on our "Little Life," and the prospect of more at no very distant date. The telegraph lines are worked by the Anglo-American Telegraph Co., under the management of T. C. Jones, Sup't, who is the right man in the right place. We also have a line in connection with the railway, under the management of the railway superintendent, Wm. McKechnie, who was formerly an operator; he strikes quite an ugly gait at the key now. It is said that the Canadian Government intends laying a cable from the east point of this Island to the Magdalen Islands some time during the coming season.

And now a word about some of our operators, those of the city offices first. In Charlottetown, beginning at the company's office, we find Chas. Prescott, who classes A 1; his copy is worth looking at. T. H. Prescott—who it appears acts as agent for your valuable paper—also handles lightning in very good shape. In the railway office we find James McKechnie, train dispatcher, who is quite an artist. W. Glesford, assistant train dispatcher also holds forth here. C. McNeill is night operator.

In Summerside, the second town of importance on the Island, J. A. Muncey runs the company's machine; he is a man who learned to run paper sixteen years ago, and he has never had the heart to forsake the friend of his youth—tender-hearted man! A. E. Clark represents the railway company. In his own words, he is not afraid of any one to send, but he can't take very well. Sandy takes very well among the girls though; that's more than some of us can say.

In Georgetown, the third town of importance, the telegraph is presided over by J. H. Byrne.

We will now give you a collection, beginning at the eastern end of our line: J. B. McEachem, Sonris; J. McDonald, Harmony; J. McTague, St. Peters; H. McEwen, Mount Stewart; W. Scantlebury and George Hughes, Royalty Junction; T. E. Wickwire, Hunter River; W. P. Grant, Alberton; T. H. Pope, Bideford; W. Jenkin, Port Hill Station; H. Montgomery, Port Hill; Miss Howatt, Crapaud; J. McDonald, Montague; T. B. Grady, Cape Traverse; B. Allan, Cape Tormenture—the cable lands between the two latter points; Miss Siddall, Bay de Verte, N. B. These are all new in the business, and have done no extraordinary telegraphing yet. The five following deserve more than a passing notice. C. Hennans, who is manager at Sackville, N. B., (where we connect with the W. U. and Montreal companies) is a first-class man in every respect. T. C. Muncey, Kensington, is our champion "big man," he looks majestic when sitting at the key. Don't let him know who wrote this, he might tramp on me—he weighs 300 pounds. He is a good operator, anyhow. At Cardigan we have J. Croucher, only thirteen years old, who can put many an operator twice his age to shame. H. P. Cottle, formerly of the train dispatchers office, Ch'town, is at present rusticated at Mount Stewart. He said when he came down from Ontario he was going to show the Island boys how to telegraph. But the boys would not be taught; they evidently did not like his system of telegraphy. The Superintendent thought a change of air would be beneficial to his health, so he transferred him from the city office to Mount Stewart, and he now assists the operator there.

Last, but not least, we have our modern Rip Van Winkle, H. T. Dyer. We expect him to awake some day. He holds forth at North Wiltshire. I have no bulls to chronicle. I guess the cold weather keeps them quiet. (You are allowed one or two.)

Wishing you and your Journal prosperity,

I remain yours consistently, &c. &c. S. K. R.

Gay Life at the Capital—A Mysterious Disappearance.

WASHINGTON, D. C., FEB. 20th, 1876.

To the Editor of THE OPERATOR.

The season is now at its height, and the spirits of the average Washingtonians are elevated in proportion. Steady streams of pedestrians pass up and down the principal streets, while the wheezy and consumptive looking hacks for hire here are in constant demand. The variety and beauty of the private carriages are perfectly bewildering, as they flit hither and thither, barely giving one a glance of the fair occupants, bewitchingly dressed for the daily calls and receptions.

The legation *attache's* once more exhibit their padded forms to the plebian Americans on Pennsylvania Avenue, with the walk and gestures of a drum-major, that envy of our boyhood days. At night time lights gleam from every window of our huge hotels, making the stranger imagine some grand event is being celebrated. Every train brings fresh arrivals, but where they are stowed is a mystery known only to the hotel clerks and their victims.

Strains of music from joyous gatherings greet the ear of the overworked night-man, as he wearily wends his way homeward, making him involuntarily offer up a fervent prayer for the officials, whose sense of honesty and justice has made it possible for him thus to enjoy life. The Capitol is thronged daily with visitors, who climb the steep hill and steeper steps, uncomplainingly and breathlessly, to gaze with awe from foul smelling galleries, filled with fifteenth amendments, down upon the bald pates, supposed to contain the wisdom of the nation, and then try in vain to learn what is going on there. They see members in groups, talking and laughing,—members in chairs, writing or reading—members in pairs, walking or standing—members in the cloak-rooms, smoking—and members on the sofas sleeping—members doing everything but listening to one of their number who is standing at a desk, gesticulating frantically, and becoming very purple in a vain endeavor to make himself heard; the visitor totters away, with the dim consciousness that his intellect is too feeble to comprehend the scene below, so completely is he overwhelmed by the majesty of the spectacle, or, perhaps, by the smell of the aforementioned "F A's."

Our latest arrival is Mr. Harry McKelden, a gentleman much liked by all who know him. He takes a day trick.

Jim Parsons, widely known as a lover of hard work, mysteriously disappeared last pay-day, and his last entry on the Philadelphia log-book ("The way of the transgressor is hard"), although very suggestive, gives no clue to his whereabouts. It has not been deemed necessary, however, to have the river dragged for his body.

Messrs. McCarthy and Wynne have made an exchange, the former taking the night, and the latter the day trick.

SUB.

Telegraphers' Dinner at Montreal.

MONTREAL, JAN. 30th, 1876.

The telegraph operators of this city held their first annual dinner at Touper's Hotel, Langue Pointe, on Tuesday, January 18th. The company was composed of about equal parts of G. T. R'y. and M. T. Companies' operators. Although the weather was very unfavorable—it was raining like a second deluge—the party, in a large covered vehicle, heeded it not, but rather enjoyed the drive of about seven miles. After the arrival at Touper's the company whiled away the time with singing, dancing, and piano-playing, until dinner was announced.

Mr. Hickey, G. T. R., was called to the chair; Mr. Berry, M. T. Co., occupying the vice-chair. After

an excellent dinner, to which ample justice was done, the chairman proposed the usual toasts of the queen and the royal family, etc. He gave some excellent advice to the boys around the board, which was very well received. W. C. Cherry responded to the toast of the "Telegraph Fraternity" in which THE OPERATOR came in for a full share of praise. "The Lady Operators" was responded to by the vice-chairman. In the hands of such an experienced beau as Berry, it was, of course, well treated. He ended by singing "Darling Flora by my Side" in excellent style. Toast after toast followed, and were all well responded to. "Our Absent Friends" were not forgotten, and Miller and Walt Gerald, who left Montreal some time ago, very much regretted, received each a tribute from W. C. The chairman read a poem in which almost every one present was mentioned. Its recital was greeted with much laughter and hearty applause, and the author by a unanimous assent was voted the veritable poet of "O S." Mr. Murphy's singing was so well appreciated that he had to do a great deal of it during the evening. Joe Duggan, Casimer, Potter, and Benny sang some very nice songs, especially Joe, whose wit always makes him a favorite. Price, too, was excellent, and will not be forgotten in his "Sitting on the Old Sofa." Andy Cook favored the company with "You Bet Your Happy Life." He also executed a picture during the evening of the crowd in the parlor that quite astonished the boys, who hardly imagined they had such a dashing artist among them. Hogan danced some very pretty clogs. Kent had to sing and play "Little Brown Jug" several times during the evening. Altogether it was a very pleasant reunion, and will not soon be forgotten. It is the first attempt of the kind in Montreal; probably next year it will be on a more extended scale.

After bidding mine host good-by, the party started for the city at 3:30 A. M. Too much can not be said of the management of the "hoss committee," Messrs. Timmerman, Kent, and McConnell. Also of Inglee, who looked out for those who did not "belong to our crowd." Coming to work, though, at eight o'clock the same morning somewhat dampened the spirits of some of us, and convinced us that reunions should only come once a year.

CERISE.

A Man Whose Salary Should be Increased on a Sliding Scale.

Dr. Pepper sends us the following

DIALOGUE ON NO. 5.

W! W! W!—Ms.

I, I, W!

Ms—Is it "So?"

Yes, "So."

Ms.—Are you anything of an electrician?

W.—Can't say. What do you want?

Ms.—When a 'ckt' is open, where *do* the 'lectricity go? *Do* it stay in the wire, or *do* it go back into the battery?

MARRIAGES.

Fashionable Wedding.

St. Joseph's Cathedral, Baton Rouge, La., was filled to its utmost capacity on the evening of February 3d by a very fashionable congregation, who assembled to witness the marriage ceremony of Mr. John E. White, master of repairs of the Western Union Telegraph Company, Baton Rouge, to Miss Roberta Bowman, daughter of the Hon. P. J. Bowman, of the same city. The bride, who was dressed in an elegant drab traveling suit, looked as beautiful as brides proverbially do, while the groom was the picture of manly grace and dignity. After the ceremony the happy couple received the congratulations of their host of friends at the residence of the bride's parents. It was their intention, we believe, to have taken a trip to Philadelphia, but the inclemency of the weather prevented their going at present. They intend making the trip the latter part of June, thereby being present at the Centennial celebration. Their joy may be with them, and happiness always attend them is the wish of

MANY FRIENDS.

"The Operator" for 1876.**"The Operator,"**

A Journal of Telegraphic Literature,
News, and Progress, and Organ of the
United States and Canadian Tele-
graphic Operators.

THE OPERATOR for the year 1876 will be an improvement, we think, over that of former years in everything that goes to make a spicy, wide-awake, interesting, and thoroughly independent newspaper. We are entirely re-organized in every department, and hope to turn out a paper of which the Telegraphic Fraternity of this country may justly feel proud.

THE OPERATOR enters upon the Centennial Year hale and vigorous, and with brilliant prospects for the future.

It is a THOROUGHLY INDEPENDENT NEWSPAPER, and an UNCOMPROMISING FRIEND OF TELEGRAPHERS EVERYWHERE.

We have Special Correspondents in all the large cities of the Union, who will keep us continually posted on matters pertaining to Telegraphy.

We desire to return our hearty thanks for the very liberal support which we have received in the past, and to assure our friends nothing shall be lacking on our part to make THE OPERATOR the great REPRESENTATIVE TELEGRAPHIC PAPER OF AMERICA.

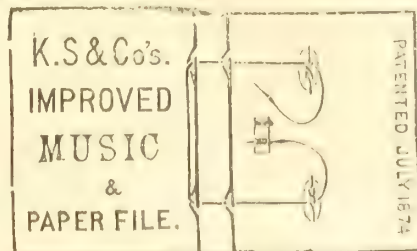
We are always happy to hear from our friends on all Telegraphic and Electrical subjects, and to have them assist us in the way of circulation, by recommending the paper, and getting up Clubs. Our premiums for Clubs are very liberal, and the goods we offer, first-class.

All the popular and valuable features of the paper will be retained, and it will continue, as heretofore, to labor for the best interests of the Telegraphic Fraternity, and the advancement of Electrical Science and the Telegraphic Art.

As heretofore, no labor, time, or expense, warranted by the patronage received, will be spared to improve its character and add to its interest, and to sustain its reputation as the only first-class Electrical and Telegraphic Journal upon the American Continent.

Binders for "The Operator."

Having made arrangements with Koch, Son & Co., Manufacturers of the best Newspaper File and Binder in the market, we are prepared to furnish them to such of our Subscribers as wish to keep the paper neat and clean, at prices much lower than they can be bought singly.



They are very simple. A child can use them. The words "THE OPERATOR" are handsomely embossed in gold on the outside, making them look very handsome. Sent free by mail, on receipt of \$1.10. The regular price is \$1.50.

Orders can be sent either through our Agents or direct to

WILLIAMS & JOHNSTON,
Box 3332, New York.

Premiums for Clubs.

To those of our readers who interest themselves in obtaining Subscriptions for THE OPERATOR, we offer the following very Liberal Premiums:

For a Club of **Two** yearly subscribers we will send a package of fifty handsome visiting cards free.

For a club of **Four** yearly subscribers we will send a copy of THE OPERATOR free for six months.

For a club of **Six** yearly subscribers we will send one copy free for one year.

For a club of **Twelve** yearly subscribers we will give a first-class Morse Key, Western Union pattern.

For a club of **Fifteen** yearly subscribers we will give a first-class Giant Sounder, or a Learners' set.

For a club of **Twenty-five** yearly subscribers we will give a first-class Morse Key, Giant Sounder, and one year's subscription to THE OPERATOR to the person sending the club.

For a club of **Forty** yearly subscribers we will give a good substantial American Silver Watch.

For a club of **Fifty** yearly subscribers we will send a Barnes' \$30 Scroll Saw, same as advertised in another column.

SEND the names as fast as received, and we will give you credit. They can be added to at any time.

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For 12 Yearly Subscriptions.

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SAWS AND LATHES.**

\$5.00 to \$11.50 averaged per day with these Machines. ALL wood workers should use them. BOYS can make \$5.00 per day with them, besides learning a PROFITABLE TRADE. For a sample of sawing send 25 cents for THE MYSTIC PUZZLE, or YANKEE'S DREAM. We send it by mail. Say where you read this, and address, for FULL description, W. F. & JOHN BARNES, Rockford, Winnebago Co., Illinois.



Box 2,044.

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A Situation wanted by a Young Man, as Assistant in a Railway or Telegraph Office in Maine or New Brunswick, where he can earn his Board. A Telegraph Office preferred. Good references can be given. Address,

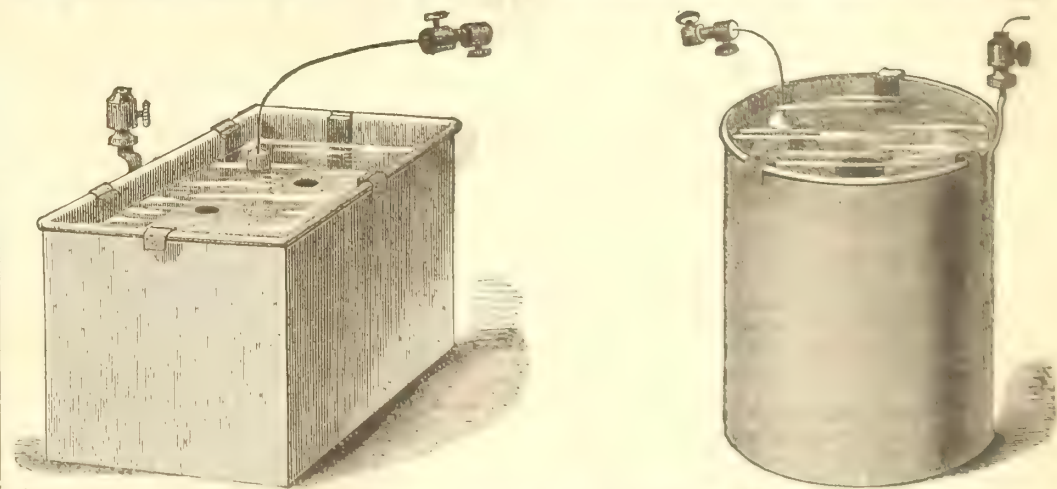
P. O. Box 78, St. Stephens, N. B.

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All Telegraphers should send for the TELEGRAPHER'S SOUVENIR. Price, 25 Cents. Sent post-paid.

Address, **P. M. HUNTINGTON,**
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THE EAGLES Metallic Galvanic Battery



H. B. GRINNELL,
No. 7 Murray Street, New York,
EAGLES METALLIC BATTERY.
SEND FOR IT DIRECT. WE HAVE NO AGENTS.

Simple in construction, requires no skill to set up, or trouble to manage. It does its work with almost noise, economy, and DOUBLE THE AMOUNT OF POWER of any sulphate of copper battery, as long as there is left in the jar an ounce of blue vitriol to consume.

For open circuits, the Eagles Metallic Battery has been found to be a perfect success. This Battery is used on several telegraph lines, and has proved specially adapted for Electric Railroad Signaling, Electric Alarm, Electric Bells, District, and other telegraphs where a constant battery is required. Motion and other similar purposes.

EDWARD FARRAR, Esq. I have been very much interested in reading of your Eagle Metallic Battery, and after ten years of trial and observation have come to the conclusion that it is the best for the purposes named. It is simple, economical, and presented. Its constant electric motive force, and its great economy, are its chief merits. I have used it without the least failure of battery at the head of the test.

GEORGE L. LUTHER
Consulting Engineer and Battery Manufacturer.

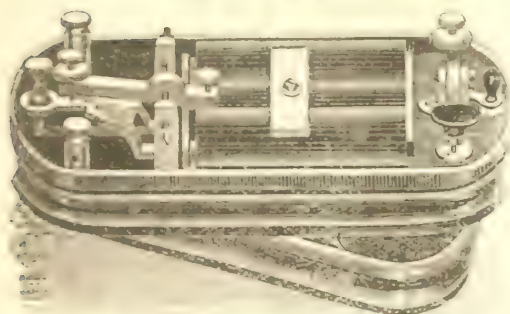
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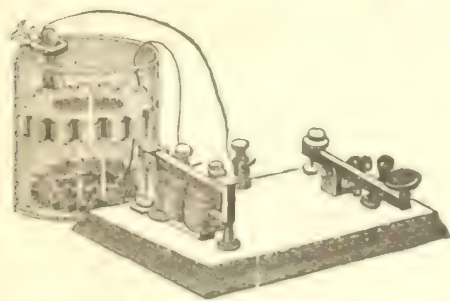
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We call especial attention to our Pocket Relay, an improve-
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IMPROVED LEARNER'S AND SHORT LINE TELEGRAPH INSTRUMENTS.

A full sized Morse Sounder and Key, finished in fine style,
one cell of large Gravity Battery, one package of Chemicals, 25
feet of wire, and a box of tools, making a
complete outfit for an office and for the student, at the surpris-
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Our latest improvement, "The Challenge, or Stunner Sound-
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of great importance. We offer them as un-
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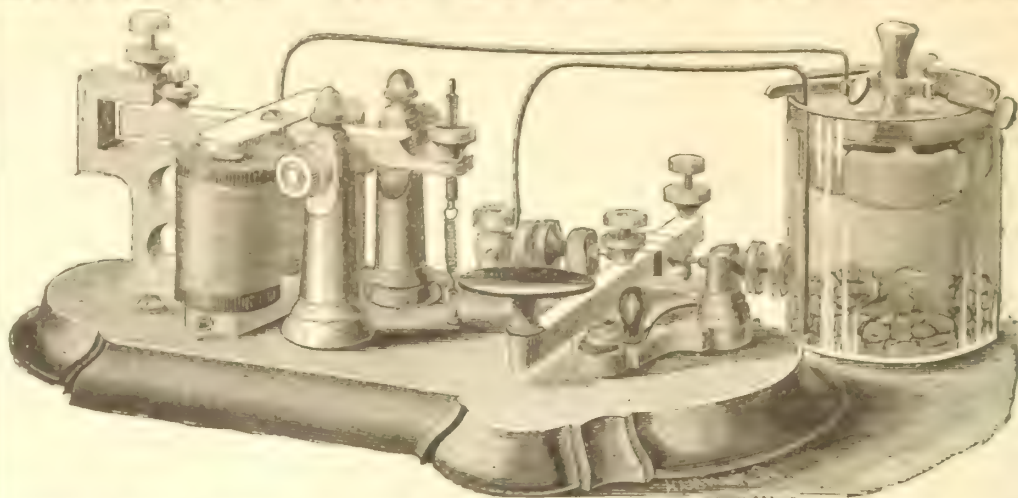


They are complete Railroad outfits when furnished in black
walnut boxes, containing Pens, Pencils, Paper, Wire, Pliers,
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which has long existed. Price of Instrument, \$22.50. (Key
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*Complete and Perfect, full-sized Sounder and Key combined, with Book of In-
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These instruments have been greatly improved, both in their working qualities and in the style in which they
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**For Learners' Uses, For Telegraph Schools,
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Price, complete, with Battery, Book of Instructions, Wire, and all necessary materials to put in operation, singly or on
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Learners' Instrument, without Battery, etc. 6.00
Ornamental Rubber Covered Cords, etc. 7.50
Same Instruments, wound with finer silk covered Wires, so as to operate satisfactorily from up to a distance in length,
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These prices subject to our usual Discount of 20 per cent. when money is sent in advance, either by Postal Order or Draft.

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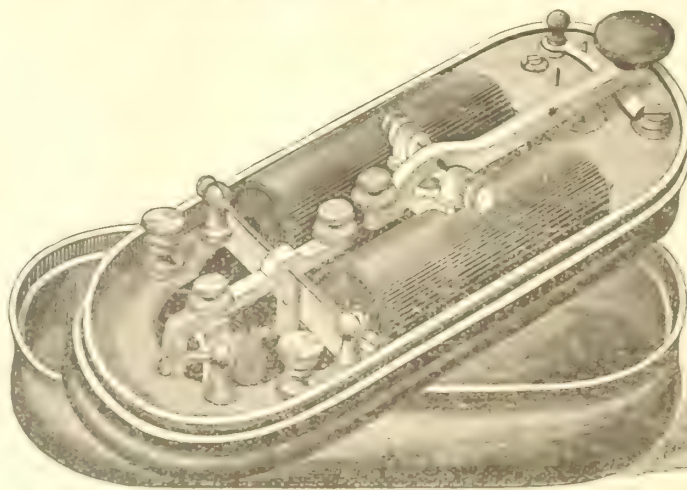
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Our Patent Pocket Relay has an improved key, large enough to be handled and for practical work.
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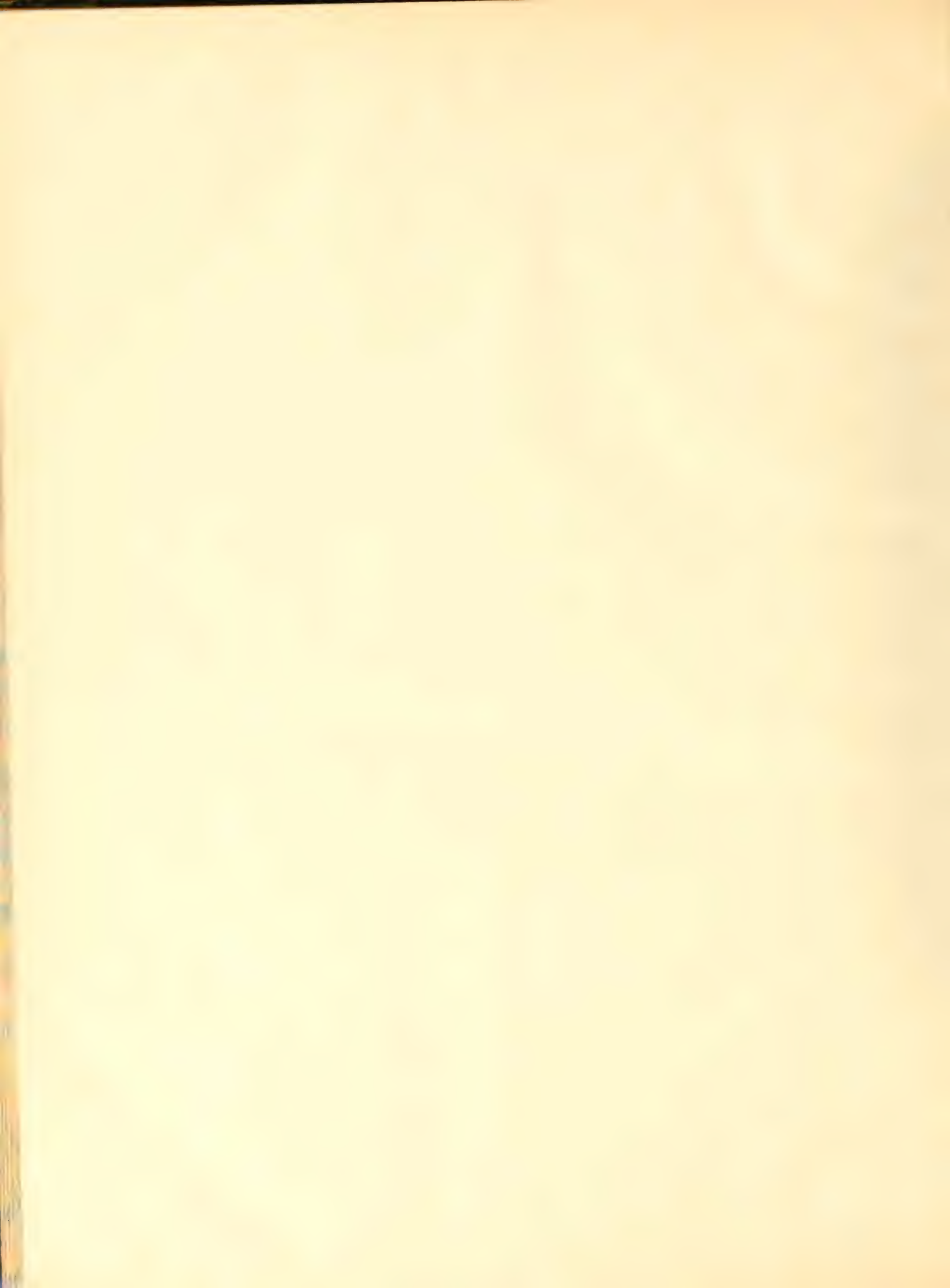
The adjustment spring is conveniently arranged, and can be repaired with ease.

The instrument gives a splendid sound.

The case is hard rubber, and the same in length and width as the Caton Pocket Relay Case, and a trifle deeper.
It is guaranteed the most compact and most complete Pocket Instrument made.

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